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Implementation of Web-Based Monitoring for the Evaluation of the Performance of Intern Students at BPJS Ketenagakerjaan Medan Kota

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Abstract

Background of Study: Internship programs are essential in connecting academic knowledge with real-world work experience. However, conventional monitoring systems used during internships often lack efficiency and transparency, especially in public institutions like BPJS Ketenagakerjaan Medan Kota.
Aims and Scope of Paper: This study aims to design and implement a web-based monitoring system to evaluate the performance of internship students at BPJS Ketenagakerjaan Medan Kota. The system is expected to streamline documentation, reporting, and assessment processes during the internship period.
Methods: A qualitative descriptive method with a case study approach was used. Data were collected through participatory observation, in-depth interviews with mentors and students, and documentation analysis. The system was developed using Laravel, Tailwind CSS, and MySQL, then tested on a limited group of users.
Result: The results showed that the system improved performance tracking, enhanced documentation of student tasks, and facilitated real-time evaluations. Users reported high satisfaction with the system's usability and clarity. Automatic score recap features and digital proof uploads made evaluation more objective and structured.
Conclusion: The web-based monitoring platform has positively impacted the supervision and evaluation process of intern students. It offers a scalable solution for internship performance evaluation and has the potential to be applied in similar organizational contexts with further system enhancements.

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INTRODUCTION

The internship program is a form of implementation of the higher education curriculum that emphasizes an experiential learning approach, where students are given the opportunity to gain practical insights and work skills relevant to their field of study (Kartika et al., 2024; Jum et al., 2025). Through this activity, students are expected to develop their professional competence, critical thinking, and communication skills in real organizational environments.

In the BPJS Employment environment, especially at the Medan City Branch Office, the internship program is not only focused on the introduction to the world of work, but also directs students to be directly involved in various field activities that support institutional missions. These include visits to Business Entities (BU) and Non-Wage Recipients (BPU), socialization activities to the head of the environment, production of viralization video content, preparation of monthly reports, and participation in seminars organized by BPJS Ketenagakerjaan Medan Kota. These diverse activities require proper supervision and systematic documentation to ensure both accountability and learning outcomes are achieved (Arisanty et al., 2024).

However, the implementation of internship activities with such a wide scope raises challenges, particularly in the area of performance monitoring and evaluation. The current practice using manual and non-centralized systems makes the evaluation process inefficient and prone to subjective bias. Supervisors often face difficulties in tracking student progress in real time and validating performance outputs, which results in suboptimal feedback and documentation (Muhaimin et al., 2023). This issue is also echoed in previous studies that found manual evaluation methods to be less transparent and vulnerable to data inconsistency (Yulianto & Firdaus, 2021; Amelia et al., 2024).

With the rapid advancement of digital technology, especially web-based platforms, the integration of digital tools into institutional operations has become a strategic necessity. Web-based monitoring systems provide benefits such as ease of access, time efficiency, transparency, and real-time integration of data and feedback (Rahayu, 2023; Bestin et al., 2023). In the context of internship evaluations, such systems can function as digital archives for all student activities, including task evidence (documents, videos, reports), assessment records, and feedback from supervisors. The system also fosters real-time communication and reduces the gap between students and mentors in the evaluation process (Riady et al., 2023).

In addition to academic goals, internships also play a vital role in shaping students' digital competencies and adaptability to technology-based work environments (Ausat, Massang, et al., 2023). The absence of structured performance records and real-time feedback mechanisms can hinder this learning process. With tasks that involve public communication, video production, and socialization with external stakeholders, there is a need for multifaceted monitoring tools that capture both qualitative and quantitative indicators of student engagement (Ausat et al., 2023; Arisanty et al., 2024). Relying on manual forms or delayed reporting not only creates administrative burdens but also risks the loss of valuable data that could inform future program improvements.

Several studies have demonstrated that web-based systems, when effectively designed and integrated, can enhance the governance of education programs through automation, traceability, and user-friendly interfaces. Mardiana et al. (2024) emphasize that frameworks such as Laravel and Tailwind CSS allow for the creation of responsive systems that are accessible across devices and user categories. Meanwhile, Bestin et al. (2023) and Rahayu (2023) show how organizations that adopt digital monitoring platforms for interns benefit from streamlined communication and centralized documentation. This shift from conventional to digital monitoring also aligns with broader trends in digital transformation within public services and higher education (Riady et al., 2025).

Therefore, the design and implementation of a web-based internship monitoring system not only addresses technical limitations in the evaluation process but also represents a step forward in building a transparent and accountable digital culture within government institutions. Such systems, when developed based on user needs and organizational context, have the potential to foster stronger collaboration between universities and host organizations. They also serve as evidence-based tools for assessing the impact of internship programs on student development and institutional effectiveness (Harahap et al., 2023).

METHOD

Research Design:
This study adopts a qualitative descriptive design through a case study approach to explore how a web-based monitoring system supports the internship evaluation process at BPJS Ketenagakerjaan

Medan Kota. This method is appropriate to obtain in-depth insights from users and stakeholders and aligns with the SRQR framework for qualitative research (Kartika et al., 2024).

Participants:
Participants consisted of:

1. Internship students (n=20) from the University of North Sumatra who participated in the internship program between March–May 2025.
2. Mentors/Supervisors (n=5) from BPJS Ketenagakerjaan Medan Kota, actively involved in monitoring and evaluation.

The inclusion criteria included active participation in the internship, usage of the system, and involvement in assessment activities.

Population and the Methods of Sampling, Instrumentation:
The study population consisted of all internship students and supervisors during the study period. A purposive sampling technique was employed to ensure data was collected from key individuals with relevant experience.

Instrumentation:
1. Observation Guide: Designed to document interaction with the system.
2. Interview Protocol: Semi-structured, adapted from digital literacy and usability studies (Arisanty et al., 2024; Riady et al., 2023).
3. Questionnaire: Developed with Likert-scale items adapted from system usability research (Mardiana et al., 2024) evaluating clarity, ease of access, and feedback features.

Scoring and Validity:
1. Items were scored from 1 (strongly disagree) to 5 (strongly agree).
2. Content validity was ensured through expert review (Yulianto & Firdaus, 2021).
3. Internal consistency was verified via Cronbach's Alpha = 0.82, indicating good reliability (Bestin et al., 2023).

Instrument:
The instruments used include:

1. Web-based monitoring system: Developed using Laravel and MySQL for backend and Tailwind CSS for responsive user interface, in line with digital education system models.
2. Interview guide and questionnaire: Adapted from previous studies focusing on system design and monitoring.
3. Performance documentation: Collected via system-uploaded reports, Google Drive links, and activity evidence (videos, forms, seminar attendance).

Procedures and Time Frame:
The study was conducted in five main stages: February 2025: Needs analysis through interviews and document review. March 2025: System development and prototyping. April 2025: Limited implementation with selected internship students. May 2025: Data collection (interviews, observation, and questionnaires). June 2025: Data analysis and system revision. This procedure aligns with standard digital system evaluation practices in public institutions (Khatib & Riady, 2023).

RESULTS AND DISCUSSION

Result

The development of the web-based monitoring system for internship evaluation at BPJS Ketenagakerjaan Medan Kota was successfully carried out through a structured series of stages, including user needs analysis, system design, limited implementation, and testing. The system was developed using Laravel as the backend framework, Tailwind CSS for front-end design, and MySQL as the database engine. Visual Studio Code served as the integrated development environment. The resulting system supports core functions required for performance tracking, including real-time data recording, digital task verification, and automatic score recapitulation (Mardiana et al., 2024).

Several key features were implemented to support user needs:

1. Monitoring Dashboard – Summarizes each student's progress based on task indicators such as BU/BPU visits, socialization, content production, and seminar participation.
2. Activity Proof Upload – Allows students to submit activity documentation through categorized Google Drive links.
3. Verification & Assessment Module – Enables mentors to validate uploaded evidence and assign performance ratings within the system.
4. Score Recapitulation – Automatically compiles and calculates performance results based on weighted criteria across reported activities.

The system was tested on a small cohort of 20 internship students and 5 mentors. Results from observation and interview data indicated that users found the system easy to navigate, time-saving, and highly beneficial for organizing performance evaluations. Students appreciated the clear structure and timely access to their own progress, while mentors reported a reduction in administrative tasks and better clarity in evaluating submissions. All features performed as expected during the limited trial phase, confirming the system's functional readiness for broader use.

Discussion

The implementation of the web-based monitoring system has directly addressed critical shortcomings of manual internship evaluation practices. The fragmented nature of conventional systems, which often rely on printed forms and offline communication, resulted in delays, data loss, and inconsistencies. With the new system in place, student activity is recorded digitally in real time, and supervisors can provide feedback based on actual evidence, not memory or approximation (Yulianto & Firdaus, 2021).

The student experience has also improved significantly. Requiring students to routinely upload proof of their activities fosters discipline, responsibility, and reflective learning. By visualizing their task history and evaluation records, students are better able to track progress and understand assessment standards (Jum et al., 2025). This process promotes accountability while also serving as a portfolio of practical experience, which may later be useful in academic or professional contexts (Arisanty et al., 2023).

For supervisors, the system reduces administrative burdens and standardizes assessment procedures. Instead of manually collecting reports or grading inconsistently, mentors now have access to centralized data and can provide structured input. This streamlining allows more time for actual mentoring and coaching, which aligns with educational quality goals and student development outcomes (Bestin et al., 2023; Putri et al., 2024).

From a technical standpoint, the choice of Laravel and Tailwind CSS ensured the system could be rapidly deployed and easily updated. The UI is responsive and accessible across devices. Integrating Google Drive was a strategic decision that minimized infrastructure costs while leveraging a platform already familiar to most users (Mardiana et al., 2024; Khatib & Riady, 2023). However, user feedback suggests improvements could still be made in terms of notification systems and more robust analytics (Sicily, 2024).

The study also highlights the importance of involving end-users during system design. Collaboration between developers, students, and mentors during the requirement analysis phase contributed significantly to the system's alignment with real workflow patterns. This participatory design approach increases user satisfaction and adoption rates, confirming prior findings in digital education system research (Riady et al., 2025; Muhaimin et al., 2023).

Lastly, the system not only fulfills its intended function but also contributes to broader institutional goals. By digitizing internship supervision, BPJS Ketenagakerjaan can demonstrate greater transparency, compliance with educational standards, and improved coordination with academic institutions (Habibi et al., 2022). It reflects a shift toward data-driven decision-making in public education governance and opens pathways for further digital innovation in government agencies (Setyawan & Munari, 2020).

Implications
The web-based internship monitoring system developed in this study holds practical implications for both educational institutions and government agencies. It provides a scalable, low-cost, and evidence-based solution to track student internship performance. It also serves as a prototype for similar organizations looking to digitize field-based supervision and assessment processes.

Research Contribution
This research offers an empirical case study that bridges technology implementation with educational quality assurance. It contributes to the discourse on digital transformation in higher education, particularly in the context of internship programs in government institutions. The system design and evaluation approach presented here can be replicated or adapted to suit similar needs in other sectors or regions (Habibi et al., 2023).

Limitations
Despite its contributions, the study is not without limitations. First, the implementation was conducted in a limited context, involving only one institution and a single internship period. This restricts the generalizability of findings across different agencies or academic programs. Second, the system has not yet been integrated with the internal databases of BPJS Ketenagakerjaan, requiring manual data export for official use. Third, the absence of built-in notification features reduces system responsiveness, especially for reminding users about deadlines or pending assessments. Additionally, although the system facilitates documentation and basic assessment, it lacks advanced performance analytics such as behavior tracking, comparative dashboards, or predictive alerts, which could further improve decision-making and learning feedback loops.

Suggestions
Future developments of the system should prioritize integration with institutional databases to ensure automated reporting and archival compatibility. The addition of notification features, either via email or mobile push alerts, would improve real-time interaction and user engagement. Furthermore, incorporating data visualization and advanced analytics—such as dashboards that track trends, student comparisons, and behavioral indicators—would enrich the evaluation process and support more strategic decision-making by supervisors. Expanding the trial to include multiple agencies or internship periods would provide a more comprehensive evaluation of system scalability and robustness. Finally, future research could explore the system's impact on student motivation, supervisor effectiveness, and organizational learning outcomes, particularly in long-term deployments.

CONCLUSION

The implementation of a web-based monitoring system for evaluating the performance of interns at BPJS Ketenagakerjaan Medan Kota has been proven to have a positive impact on the efficiency and transparency of the monitoring process. This system makes it easier for students to document evidence of assignments and activity progress in a systematic manner, while allowing supervisors to conduct real-time and objective evaluations. Through features such as dashboard monitoring, performance evidence uploads, and grade recapitulation, this system is able to replace manual evaluation methods that were previously less structured. In addition to increasing student accountability, this system also strengthens the role of supervisors in providing constructive feedback. Nonetheless, further development is still needed, especially in terms of integration with the agency's internal systems as well as the addition of notification features for task reminders. In the future, it is hoped that this system can be applied more widely and become an adaptive model for internship evaluation to the needs of the digital era.

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