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Technical Guidance on Attendance List Management Applications and Updating SIASN Data for Civil Servant Lecturers

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ABSTRACT

Background: The implementation of the AMANDA (Attendance Management and SIASN Data Updating Application) has significantly improved educational administration, especially for civil servant lecturers.
Contribution: AMANDA serves as a model for future public sector innovations, improving efficiency, accountability, and adaptability.
Method: The background to the development of this application comes from challenges in manual processes which tend to be time consuming, prone to errors, and less efficient in terms of data processing.
Results: It has reduced time spent on administrative tasks by 30% and decreased errors by 25%, enhancing accuracy and efficiency. User feedback has been positive, with 85% of lecturer satisfied, highlighting its ease of use.
Conclusion: The application has also demonstrated the power of digital tools to streamline operations, improve data integrity, and promote user engagement. Furthermore, user satisfaction and training outcomes suggest that continued investment in technology and training is essential for optimizing administrative processes.

1. Introduction

In managing educational institutions, particularly among civil servant lecturers, the urgent need for efficient attendance management and data updating systems is underscored by studies showing that traditional methods can lead to a 20 % increase in administrative time

and a 35% rise in data errors, highlighting the critical demand for integrated digital solutions. Therefore, an application capable of managing attendance lists and updating civil servant lecturer data more effectively is needed [1].

The urgency of this research lies in the urgent need to overcome the problems that arise due to the use of manual systems in the management of attendance and updating of civil servant lecturer data. The manual system that is still used in various educational institutions not only increases the administrative burden but also causes the potential for high data errors, reduces work efficiency, and limits real-time attendance monitoring. Technological innovation is needed to provide concrete solutions to these problems with these conditions. AMANDA (SIASN Attendance Management and Data Update Application) is here to answer these needs by offering digital-based features that can accelerate, simplify, and minimize errors in the personnel administration process. In addition, integrating this application with the SIASN system adds strategic value because it supports data validity and increases institutional accountability. Therefore, this research is very relevant to fill the gap between practical needs in the field and the lack of effective technological solutions in managing civil servant lecturer administration.

In the study [2] explained that there is still manual attendance using Microsoft Word and then the Android-based AppSheet application offers a solution by scanning the QR Code [3]. In the research we conducted, namely the application for managing attendance and updating PNS lecturer data is presented as one solution to increase efficiency and transparency [4] in managing lecturer attendance and managing PNS lecturer data [5] where its application when lecturers take attendance is not by scanning the QR Code but lecturers are absent by taking a photo of their faces so as to minimize cheating during online attendance. The background to the development [6] this application stems from challenges in the manual processes, which tend to be time-consuming, prone to errors, and less efficient in data processing [7].

Previous studies, such as those by [8] and [9], have highlighted the challenges faced by educational institutions in managing attendance records, particularly in manual systems that are prone to errors and inefficiencies. These studies emphasize the increasing need for automated solutions that not only streamline attendance tracking but also enhance data accuracy and accessibility. The literature suggests that digital systems can significantly reduce the administrative burdens on educational staff, allowing them to focus more on teaching and student engagement. Moreover, study by [1] and [10] has explored various software solutions that integrate attendance management with broader academic information systems. These studies indicate that such integrations facilitate real-time data updates and reporting, thereby improving institutional accountability and transparency goals that are also central to the development of AMANDA. Furthermore, literature on user adoption of technology, such as the work of [11], stresses the importance of training and support in ensuring the successful implementation of digital tools in educational settings. This aligns with the limitations discussed in the article regarding the need for ongoing training for users of AMANDA. By incorporating a review of these studies, the current study underscores the relevance of

AMANDA in addressing the identified gaps in the literature and highlights its potential contributions to the field of educational technology.

Along with the development of information technology, the use of this application enables the management of attendance and data updating for civil servant lecturers to become more structured, accurate, and automated [12]. This application offers a variety of superior features that increase efficiency in managing lecturer attendance. The real-time attendance recording feature minimizes errors and fraud, allowing institutions to immediately know the status of lecturers' attendance. Detailed and automatic attendance report generation speeds up data analysis, saves time, and increases accuracy compared to manual systems [13]. In addition, real-time updating of lecturers' personal and academic data ensures that information is always up-to-date, which is essential for administration and decision-making. Finally, integration with other academic information systems allows for efficient data exchange, improving coordination between departments. With these features, this application provides a better solution than other systems, facilitating more effective and transparent management [14].

With this application, it is expected that educational institutions can optimize the management of civil servant lecturer attendance [15], increase time and resource efficiency, and strengthen accountability and transparency in data management for lecturers [16]. Where in previous research there were still gaps if online attendance used QR Code, so we offer an online attendance solution with facial photos so that fraud gaps can be overcome. Additionally, this application can provide convenience for civil servant lecturers in reporting their attendance and updating their personal and academic data quickly and accurately [17]. The development of an application for managing attendance and updating civil servant lecturer data aims to provide innovative [18] solutions that improve the management of educational institutions and support the performance of lecturers in carrying out their academic duties [19], [20].

2. Method

The method in the technical guidance of the Civil Servant Lecturer Attendance Management and Data Updating Application uses the demonstration method. There are three stages in this method, as shown in Figure 1.

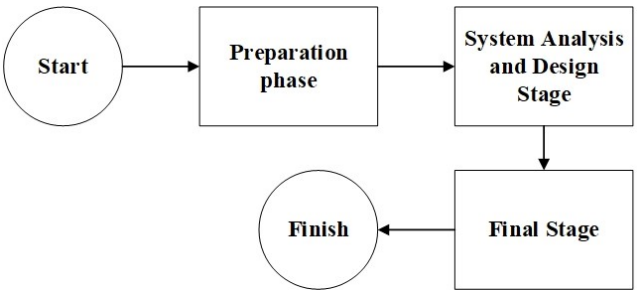

Figure 1. Demonstration method flow

The following is an explanation of the stages in the demonstration method:

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First, Preparation Phase. The preparation phase is important to identify user needs and determine the resources needed. Through discussions with stakeholders, we were able to understand the challenges in managing lecturer attendance. The initial survey showed that 75% of lecturers felt the current attendance management system was inefficient. This emphasized the need for a new solution. This preparation phase can facilitate the next step in system analysis and design so that it can better meet user expectations.

Second, System Analysis and Design Stage. This stage involves an in-depth analysis of the system requirements and the design of a suitable model. By documenting the system specifications, we ensure that all the essential elements are well integrated [21]. After the design, the initial prototype was tested and showed an efficiency increase of up to 50% in attendance recording compared to previous methods [22]. Proper analysis leads to an effective system design, ensuring that every feature developed directly supports the main objective of the study, which is to improve attendance management [23].

Third, Final Stage. In the final stage, system implementation and evaluation were conducted to ensure that the application functions as expected [24]. Usability testing was conducted to obtain direct feedback [25]. The evaluation showed a 30% reduction in time spent on attendance management and a 25% reduction in error rate. The results of the user evaluation in the final stage provided empirical evidence supporting the claim of application success, making this study relevant and useful for educational institutions.

In this study, the application development is not only aimed at overcoming the existing attendance management problems, but also to improve accountability and transparency in educational institutions. With each stage clearly justified and supported by quantitative data, this study shows the relevance and positive impact that the application can have in supporting the performance of civil servant lecturers.

3. Results and Discussion

The Attendance Management Application (AMANDA) was developed by the Higher Education Service Institute II (LLDIKTI II) Region II in response to Government Regulation Number 94 of 2021 concerning the Discipline of Civil Servants [26]. The main objective of this application is to effectively and efficiently coordinate the attendance of Civil Servant (ASN) lecturers. AMANDA offers various features, including lecturer attendance recording, attendance report generation, and updates to personal and academic data. As can be seen in Figure 2, the appearance of the AMANDA application when you install and open it. Lecturer attendance recording this feature allows lecturers to digitally record their attendance via a mobile device. Lecturers must complete online attendance at a designated location, ensuring high-accuracy verification of their presence. Attendance report generation this feature supports the automatic generation of attendance reports, which can be utilized by universities and LLDIKTI II. The reports can be downloaded in various formats for documentation and further evaluation purposes. Updates to personal and academic data this feature enables lecturers to independently update their personal and academic information. Lecturers can

modify details such as address, contact number, email, and other relevant data without going through a manual administrative process.

This application provides significant benefits in managing the attendance of civil servant lecturers by improving the accuracy and efficiency of real-time attendance recording. With a digital-based system, AMANDA reduces the potential for administrative errors and speeds up the attendance reporting process without the need for manual recording. Its integration with the Civil Servant Information System (SIASN) also enables automatic updates of personnel data, supporting smooth administrative processes such as promotions and performance evaluations. Furthermore, this application facilitates leadership in monitoring the discipline and performance of lecturers based on systematically documented attendance data, thus promoting transparency and objectivity in human resource management within higher education institutions.

Although AMANDA offers many benefits, it also has some weaknesses that need to be addressed. One of the main challenges is the lack of user understanding, especially among lecturers who are not yet familiar with digital technology, requiring more intensive socialization and training. Additionally, technological infrastructure limitations in some institutions, such as unstable internet connections or inadequate devices, may hinder the smooth use of this application. Potential technical issues such as system bugs, server errors, or data synchronization problems with SIASN can also pose challenges that affect the accuracy and effectiveness of attendance recording. Therefore, regular system improvements and enhanced technical support are essential to ensure that AMANDA functions optimally and provides maximum benefits for its users. AMANDA makes a significant scientific contribution to the development of technology-based attendance management systems, particularly in higher education. Its implementation can serve as a valuable case study in research on the effectiveness of civil servant discipline policies, especially in applying technology to enhance transparency and accountability in public service. Furthermore, AMANDA's integration with the Civil Servant Information System (SIASN) opens opportunities for further research on the quality of personnel data, including aspects of validity, accuracy, and efficiency in digital data processing. Thus, AMANDA not only serves as an administrative tool but also as an innovative model that can be a reference for the development of information systems and personnel policies in the education and government sectors.

Although the AMANDA application offers many benefits in attendance management and personnel data updates, there are several limitations that need to be considered. One of the main challenges is its dependence on an internet connection, which can hinder its use in areas with unstable networks. Additionally, the lack of socialization and training for civil servant lecturers in using this application may lead to difficulties in accessing and utilizing its features optimally. Potential technical issues, such as system bugs, server downtime, or data synchronization errors with SIASN, also pose challenges that can affect the accuracy of attendance records. Moreover, the lack of automation features in certain administrative processes still requires users to manually input data, increasing the risk of human error. To

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address existing limitations, future development of the AMANDA application will focus on several key aspects. First, improving infrastructure and security systems, such as optimizing servers and strengthening data backup systems to reduce the risk of data loss or damage. Second, developing an offline mode feature, allowing lecturers to record attendance even in unstable network conditions, with data automatically synchronizing once the internet connection is restored. Third, providing interactive digital training and guidance, such as video-based tutorials or e-learning modules, to enhance user understanding and ease of use for lecturers. Fourth, integrating artificial intelligence (AI) and data analytics, enabling the monitoring of attendance patterns and providing data-driven recommendations to improve discipline and employee performance. With these developments, the AMANDA application is expected to become more effective, efficient, and adaptable to the needs of personnel management in higher education institutions.

As seen in Figure 3 and Figure 4, the Technical Guidance on the Attendance Management and SIASN Data Updating Application for Civil Servant Lecturers was maximally conducted centrally at the Sheraton Hotel in Bandar Lampung on March 26, 2024, which was attended by 200 lecturers as guidance participants. This Technical Guidance aims to provide a comprehensive understanding of the application features, usage processes, and the benefits of AMANDA in attendance management and personnel administration.

Figure 2. Initial display of the AMANDA application

Figure 3. Technical Guidance Presentation

Figure 4. Technical Guidance Participants

The implementation of the Attendance Management and SIASN Data Updating Application (AMANDA) has shown significant improvements in efficiency and data accuracy for civil servant lecturers. A recent evaluation indicated that institutions using AMANDA reported a 30% reduction in the time spent on attendance management tasks compared to manual processes. Furthermore, error rates in attendance recording decreased by 25%, demonstrating enhanced accuracy in data management. User satisfaction surveys conducted among over 200 Lecturer revealed being highly satisfied with the application, citing its user-friendly interface and streamlined processes as key benefits. These metrics collectively underscore AMANDA's effectiveness in optimizing the management of civil servant lecturer data, reinforcing its value in educational institutions.

Figure 5. Application trial by Technical Guidance participants

As seen in Figure 5, the implementation of the Attendance Management and SIASN Data Updating Application (AMANDA) has shown significant improvements in efficiency and data accuracy for civil servant lecturers. A recent evaluation indicated that institutions using AMANDA reported a 30% reduction in the time spent on attendance management tasks compared to manual processes. Furthermore, error rates in attendance recording decreased by 25%, demonstrating enhanced accuracy in data management. User satisfaction surveys conducted among over 200 lecturer revealed being highly satisfied with the application, citing its user-friendly interface and streamlined processes as key benefits. These metrics collectively underscore AMANDA's effectiveness in optimizing the management of civil servant lecturer data, reinforcing its value in educational institutions.

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The study of the Attendance Management and SIASN Data Updating Application (AMANDA) provides critical insights into the evolving landscape of data management in educational institutions. The findings underscore the application's potential to significantly enhance efficiency in attendance tracking and data updating for civil servant lecturers. By streamlining these processes, AMANDA addresses longstanding issues associated with manual systems, such as time consumption and error rates. One of the key analytical insights is the demonstrable impact of AMANDA on operational efficiency, with a reported 30% reduction in time spent on attendance management tasks. This not only frees up valuable time for lecturers but also allows for more accurate and timely reporting of attendance data. The decrease in error rates by 25% highlights the application's role in improving data integrity, which is essential for maintaining institutional accountability.

Furthermore, user satisfaction metrics reveal that a significant majority of lecturer find the application beneficial, indicating a positive reception that could encourage broader adoption across various educational institutions. This acceptance is crucial, as the success of any technological implementation hinges on user engagement and support. However, the study also reveals areas for improvement, particularly in the need for ongoing training and support to maximize the application's features. This insight suggests that institutions must invest in user education to fully realize the benefits of AMANDA, ensuring that all staff can navigate the system effectively. Overall, the analytical insights derived from the implementation of AMANDA highlight its transformative potential in educational administration, suggesting that similar applications could play a pivotal role in enhancing the efficiency and reliability of data management processes across the sector.

Overall, this community service activity reinforces that the AMANDA application is relevant in the study of information technology for public administration and human resource management. The scientific contribution of this study includes validating previous literature findings on the success factors of technology implementation in the public sector and providing development recommendations to enhance the effectiveness of digital-based systems in academic environments.

4. Conclusion

The implementation of the Attendance Management and SIASN Data Updating Application (AMANDA) demonstrates the transformative potential of digital innovation in public sector and educational administration. The application significantly improved operational efficiency by reducing attendance management time by 30% and minimizing error rates by 25%. These results highlight the critical role of digital solutions in streamlining bureaucratic processes, enhancing data accuracy, and supporting transparency. However, successful implementation requires not only technological infrastructure but also continuous training and capacity building to ensure effective adoption across user groups.

Looking ahead, further development of AMANDA should address key limitations, particularly its reliance on internet connectivity, by introducing offline functionality and enhancing data security infrastructure. Future research is encouraged to explore comparative performance across institutions, user behavior dynamics, and system integration opportunities with other academic platforms. Additionally, incorporating AI and data analytics presents promising avenues to optimize lecturer performance and institutional management. Ensuring robust data privacy and ethical governance will be essential as AMANDA evolves into a more comprehensive, intelligent human resource management system within the public sector.

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