JOURNAL OF IMPACTFUL MULTIDISCIPLINARITY: ACTION RESEARCH FOR SUSTAINABLE CHANGE

Journal of Impactful Multidisciplinarity Action Research for Sustainable Change
Volume 1, Issue 1, Pages x–x Month Year e-ISSN: xxxx-xxxx
https://journal.xsolusi.com/index.php/jimarscr/article/view/xxxx DOI: https://doi.org/vxix.xxxx

Web Programming Training "Student Data Administration Information System" for Teachers and School Operators by Lecturers from Universitas Muhammadiyah Palangkaraya

Anggelina Hariyanti [1]

Siti Juhairiah [2]

Iin Nurbudiyani [3]

Doddy Teguh Yuwono [4]

[1] State Administration Science, Muhammadiyah University of Palangkaraya, Palangka Raya, Central Borneo, Indonesia

[2,3] Primary School Teacher Education Department, Universitas Muhammadiyah Palangkaraya, Kalimantan Tengah, Indonesia

[4] Department of Business and Informatics, Universitas Muhammadiyah Palangkaraya, Kalimantan Tengah, Indonesia

email: anggelinahariyanti366@gmail.com

Keywords:
Web Programming Training,
Student Data Management,
Educational Technology

Received: Mei 2024
Accepted: June 2024
Published: June 2024

Abstract

The "Student Data Administration Information System" web programming training aims to enhance the skills of teachers and school operators in managing student data efficiently. Conducted by Muhammadiyah University of Palangkaraya, this community service initiative addresses the shift from manual to digital data management, emphasizing the need for accuracy and efficiency in handling sensitive student information. Held on May 30-31, 2024, in Pulang Pisau Regency, the training covers web programming basics, practical application, and data management, including HTML, CSS, JavaScript, and SQL. This hands-on approach ensures participants can directly apply their learning to develop web applications for school administration. Emphasizing data security, the program also highlights best practices for protecting student data. The training fosters collaboration among participants, enhancing inter-school cooperation in implementing IT solutions. The comprehensive curriculum includes theoretical sessions, practical tasks, and Q&A sessions, culminating in the creation of a functional student data management system. Participants receive certificates upon completion, motivating ongoing development in IT skills. The initiative not only improves technical capabilities but also strengthens the educational sector in Pulang Pisau Regency by promoting digital transformation in schools. The training's success underscores the university's commitment to community service and educational quality improvement through technology integration.

INTRODUCTION

The web programming training "Student Data Administration Information System" is an initiative aimed at improving the skills of teachers and school operators in managing student data effectively. In today's digital era, manual data management is being abandoned due to its inefficiency and susceptibility to errors (Adi & Setiyawati, 2022). Therefore, this training is designed to provide knowledge and skills in web programming so that participants can develop information systems capable of supporting administrative processes in their respective schools (Nugroho & Sukiyo, 2021).

This activity is part of a community service program conducted by lecturers from Muhammadiyah University of Palangkaraya. The training will be held on May 30-31, 2024, in Pulang Pisau Regency, with the main focus on providing a deep understanding of the use of information technology in school administration (Juhairiah, Kinasih, & Yuwono, 2022).

Muhammadiyah University of Palangkaraya is committed to contributing to the improvement of education quality through community service activities (Rahmaniati, Juhairiah, & Yuwono, 2022).

The importance of efficient and structured student data management cannot be denied in the current educational world. Student data is very sensitive information and requires careful and accurate management (Muslim, 2022). With the advancement of technology, manual data management is being abandoned due to its inefficiency and susceptibility to errors (Suryandani, 2021). This training is expected to meet these needs by providing knowledge and skills in web programming to teachers and school operators.

Muhammadiyah University of Palangkaraya, through its team of lecturers, demonstrates a strong commitment to community service by organizing this training. Led by Mrs. Anggelina Hariyanti, S.Sos., M.A.P, the involved lecturers include Dr. Iin Nurbudiyani, M.Pd., Mrs. Siti Juhairiah, M.Pd., and Ir. Doddy Teguh Yuwono, M.Kom. They possess expertise in their respective fields, highly relevant to the training topic (Yuwono, Juhairiah, & Verawati, 2022).

The training participants consist of teachers and school operators selected based on their crucial roles in school administration management. With diverse backgrounds, participants are expected to share experiences and knowledge during the training (Wicaksono & Setiyawati, 2022). This not only enhances individual skills but also strengthens inter-school cooperation in implementing information technology (Wiyono, 2021).

The training covers various materials comprehensively, from the basics of web programming to the implementation of student data administration information systems. Participants will receive practical training using programming languages such as HTML, CSS, and JavaScript, as well as an understanding of databases and their management (Rauf & Ahmad, 2022). Thus, participants are expected to develop web applications that can be used to manage student data effectively (Sasmita & Hamdani, 2020).

Besides technical materials, the training also emphasizes the importance of understanding data management and information security. In the digital era, data security becomes a critical issue, especially in education where student data is sensitive information (Sudarsono, 2021). Therefore, this training also includes aspects related to data protection and privacy policies that must be observed by data managers in schools (Suryandani, 2021).

The training method used is practice-based, allowing participants to directly apply the knowledge they acquire (Yuwono, Juhairiah, & Verawati, 2022). With this approach, participants do not only listen to theories but also have the opportunity to work on small projects relevant to their daily tasks (Fajri, 2022). This aims to ensure that each participant can apply the skills they learn in their respective work environments (Nugroho & Sukiyo, 2021).

The training also provides Q&A and discussion sessions to accommodate various questions and problems that participants may encounter (Wiyono, 2021). These sessions are expected to help participants better understand the material and find solutions to the challenges they face in school administration management (Yuwono, Azhari, & Juhairiah, 2023). Thus, this training not only becomes a learning event but also a platform for sharing experiences and practical solutions (Adi & Setiyawati, 2022).

At the end of the training, participants will receive certificates as proof that they have attended and completed this program successfully. These certificates are expected to provide additional motivation for participants to continue developing themselves in the field of information technology (Rauf & Ahmad, 2022). Moreover, these certificates can be used as an indicator of increased competence for teachers and school operators in Pulang Pisau Regency (Juhairiah, Kinasih, & Yuwono, 2022).

Overall, the web programming training "Student Data Administration Information System" is expected to have a positive impact on the educational sector in Pulang Pisau Regency. Through this community service activity, Muhammadiyah University of Palangkaraya strives to contribute to improving education quality by better utilizing information technology. It is hoped that the results of this training can be a starting point for schools to transform towards a more advanced digital era.

METHOD

The web programming training "Student Data Administration Information System" uses a practice-based method designed to enable participants to directly apply the knowledge they have acquired. The participants, consisting of teachers and school operators, are selected based on their significant roles in school administration management. This method is designed to enhance participant engagement through hands-on experience and practical application.

Training Flow and Stages

1. Initial Preparation
   Before the training begins, a preparation stage is conducted involving participant selection, determination of training materials, and schedule preparation. Participants are selected based on specific criteria, such as their roles and responsibilities in school administration. This stage also includes the collection of relevant training materials and the preparation of modules to be used during the training.
2. Introduction and Orientation
   On the first day of training, an introduction and orientation session is held. Participants are introduced to the training objectives, program structure, and expected outcomes. This session is essential to provide participants with an overview of what they will learn and how the training will proceed.
3. Theoretical Session: Web Programming Basics
   The training begins with a theoretical session covering the basics of web programming. The material includes an introduction to HTML, CSS, and JavaScript programming languages. Participants are taught about basic web structure, HTML elements, styling with CSS, and interactivity using JavaScript.
4. Practicum 1: Creating a Simple Web Page
   Following the theoretical session, participants are given the first practicum task, which is to create a simple web page. In this session, participants apply their HTML and CSS knowledge to create a structured and attractive web page. Instructors provide step-by-step guidance and support participants throughout the practicum.
5. Discussion and Q&A Session
   To accommodate various questions and issues participants might face, a discussion and Q&A session is held. This session provides an opportunity for participants to consult directly with the instructors, share experiences, and seek solutions to challenges encountered during the learning process.
6. Theoretical Session: Data Management and Information Security
   In the next session, participants are given an understanding of data management and information security. The material includes basic concepts of database management, the use of SQL to manage data, and the importance of maintaining data security in information systems. This session emphasizes the importance of protecting student data as sensitive information.
7. Practicum 2: Database Management
   After receiving the theory on databases, participants proceed with the second practicum focused on database management. Participants are taught how to create, access, and manage databases using SQL. This practicum aims to provide hands-on experience in managing student data efficiently and securely.
8. Implementation of the Student Data Administration Information System
   The next stage is the implementation of the student data administration information system. Participants are tasked with developing a web application that can be used to manage student data. In this session, participants integrate all the skills they have learned, from web programming to database management.
9. Evaluation and Feedback Session
   After all training sessions are completed, an evaluation is conducted to measure the success of the training. Participants are asked to provide feedback on the materials, training methods, and facilitators. This evaluation is essential to assess the effectiveness of the program and for future improvements.

10. Closing and Certificate Awarding
    The training concludes with a closing session that includes the awarding of certificates to participants who have successfully completed the program. These certificates are expected to provide additional motivation for participants to continue developing themselves in the field of information technology and school administration.

RESULTS AND DISCUSSION

The web programming training "Student Data Administration Information System" is a response to the urgent need to improve efficiency in managing student data within educational environments. In the past, data management was often done manually, which was prone to errors and inefficient in handling the increasing volume of data. The advent of information technology provides a solution by offering the tools and techniques needed to automate and manage data more effectively. The initiative taken by Universitas Muhammadiyah Palangkaraya in organizing this training reflects their commitment to building the capacity of teachers and school operators in utilizing technology to enhance the quality of educational administration.

Figure 1. Material Presentation

The importance of this training is evident from the paradigm shift in data management, where the use of technology has become an absolute necessity. In the current digital era, it is not only important to have an information system that can manage data efficiently, but also to ensure information security. Student data, being sensitive information, requires strict protection to avoid misuse or leakage of personal information. This training not only focuses on the technical aspects of web application development but also provides knowledge about data management and best practices in ensuring information security.

Figure 2. Programming Practice

In addition to improving technical skills, this training also aims to strengthen collaboration among schools in implementing information technology. By involving various teachers and school operators, this training creates a platform for sharing experiences and knowledge, as well as building a strong network in the application of information technology. This not only enriches the participants' experience but also expands the positive impact of this training on the educational community in Kabupaten Pulang Pisau.

Figure 3. Demonstration of the Created System

The web programming training has yielded significant results for participants in terms of enhancing technical skills and understanding student data management. Participants successfully understood the basics of web programming such as HTML, CSS, and JavaScript, and were able to apply them in creating simple web pages. Thus, they can develop a more structured and efficient information system for school administration needs.

The practical exercises in database management using SQL also provided valuable experience for participants in effectively managing student data. They not only learned the theory about database structure and SQL operations but also were able

to implement this knowledge in real-life situations. This helps to improve participants' ability to handle student data better, thereby optimizing the overall school administration process.

This training also successfully enhanced participants' understanding of data management and information security. They were not only given theoretical knowledge about the importance of securing student data but also engaged in discussions and practices regarding relevant privacy policies. This is crucial given the need to protect sensitive data in a digital era that is vulnerable to cyber security threats.

Figure 4. Group Photo with Speakers and Participants

CONCLUSION

The web programming training for the "Student Data Administration Information System" has had a substantial and beneficial impact on both participants and the educational environment in Pulang Pisau Regency. This training is designed to enhance participants' technical and managerial skills in managing student data, enabling them to face the challenges posed by the digital era. By imparting practical skills in web programming and database management, this training aims to optimize school administration processes efficiently and effectively. The objective of this training program is to not only provide a starting point, but also to serve as an impetus for schools in the region to implement information technology in student data management. The certificates presented to participants upon completion of this training not only honor their accomplishments, but also encourage them to continue developing their information technology skills. This training program conducted by Universitas Muhammadiyah Palangkaraya exemplifies the important role that higher education institutions play in enhancing the quality of education by promoting innovation and effective utilization of technology.

REFERENCE

Adi, H., & Setiyawati, N. (2022). Pembangunan sistem informasi administrasi desa berbasis web dengan framework Laravel. Jurnal Pendidikan Teknologi Informasi, 5(1), 27-36. https://doi.org/10.31227/osf.io/hy38d

Fajri, R. (2022). Sistem informasi administrasi pembayaran SPP berbasis web pada SD Negeri 29 Pontianak Utara. Jurnal Teknologi Pendidikan, 6(1), 87-93. https://doi.org/10.31227/osf.io/5kd9p

Juhairiah, S., Kinasih, Q. Y., & Yuwono, D. T. (2022). Pengembangan Media Pembelajaran Berbasis Web pada Pembelajaran IPA di SLBN-2 Palangka Raya: Development of Web-Based Learning Media in Science Learning at SLBN-2 Palangka Raya. Tunas: Jurnal Pendidikan Guru Sekolah Dasar, 8(1), 23-30.

Muslim, M. A. (2022). Pengembangan sistem informasi jurusan berbasis web untuk meningkatkan pelayanan dan akses informasi. Indonesian Journal of Mathematics and Natural Sciences, 35(1), 45-56. https://doi.org/10.15294/ijmns.v35i1.2101

Nugroho, H. A., & Sukiyo, S. (2021). Sistem informasi administrasi pelatihan dengan manajemen workflow berbasis web. Jurnal Teknologi Informasi, 8(2), 134-142. https://doi.org/10.31149/ijti.v8i2.112

Rahmaniati, R., Juhairiah, S., & Yuwono, D. T. (2022). Pelatihan Pembuatan E-Modul dengan Flipbook bagi Guru-guru di SD Muhammadiyah 1 Kota Palangkaraya: Training on Making E-Modules with Flipbooks for Teachers at SD Muhammadiyah 1 Palangkaraya City. PengabdianMu: Jurnal Ilmiah Pengabdian kepada Masyarakat, 7(Special-1), 266-273.

Rauf, R., & Ahmad, S. (2022). Rancang bangun aplikasi berbasis web sistem informasi repository universitas. Jurnal Teknologi Informasi, 9(1), 110-121. https://doi.org/10.31149/ijti.v9i1.121

Sasmita, E., & Hamdani, F. (2020). Sistem informasi administrasi keuangan sekolah berbasis web (Studi kasus: SMK Al-Kahfi). Jurnal JINTEKS, 2(1), 7-18. https://doi.org/10.31227/osf.io/t5nf4

Sudarsono, H. (2021). Sistem informasi pengolahan data nilai siswa berbasis web (Studi kasus MI Darussalam). Jurnal Teknologi dan Pendidikan, 9(2), 92-102. https://doi.org/10.31227/osf.io/b2kr7

Suryandani, I. U. (2021). Pengembangan sistem informasi akademik berbasis web sebagai sistem pengolahan nilai siswa di SMK Negeri 1 Kudus. Jurnal Ilmiah Pendidikan Teknik dan Kejuruan, 5(2), 145-155. https://doi.org/10.15294/jiptek.v5i2.1512

Wicaksono, H. A., & Setiyawati, N. (2022). Pembangunan Python script generator pada pengembangan aplikasi berbasis web. Jurnal Pendidikan Teknologi Informasi, 5(1), 37-48. https://doi.org/10.31227/osf.io/htqv6

Wiyono, G. B. (2021). Perancangan sistem informasi sekolah berbasis web menggunakan framework CodeIgniter. Indonesian Journal on Networking and Security, 8(2), 23-34. https://doi.org/10.31227/osf.io/k3j2w

Yuwono, D. T., Azhari, M., & Juhairiah, S. (2023, November). IT-based education online learning in the middle of Covid-19 pandemic. In AIP Conference Proceedings (Vol. 2702, No. 1). AIP Publishing.

Yuwono, D. T., Juhairiah, S., & Verawati, V. (2022). Pelatihan Pembuatan E-Modul Dengan Flipbook Bagi Guru-Guru Di Slbn-2 Palangka Raya. Jurnal Pengabdian Al-Ikhlas Universitas Islam Kalimantan Muhammad Arsyad Al Banjary, 8(2)