

Development of Web-Based ICT Learning System at SMP YAPI AL-HUSENI

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ABSTRACT

ICT, shorten for Information Communication and Technology has been spread to many aspect. One of them were Education System. This project focuses on the development of an ICT learning system in junior high school level at SMP YAPI AL-HUSENI, with a web-based platform. The objective is to enhance the learning experience for students by leveraging the capabilities of web technologies. The system aims to provide an interactive and accessible platform for both students and teachers, facilitating efficient communication and the delivery of educational content. By incorporating web-based features, such as online resources, collaborative tools, and interactive assessments, the ICT learning system strives to create an engaging and dynamic environment for students to acquire essential digital skills. The development process includes designing a user-friendly interface, implementing robust functionalities, and ensuring scalability for future enhancements. Through this initiative, SMP YAPI AL-HUSENI aims to embrace modern educational methodologies and prepare students for the evolving demands of the digital age.

Keywords: learning, system, students, web-based

1. INTRODUCTION

The Covid-19 pandemic has had an impact on many sectors, including education. Both the central and local governments have implemented policies to close all educational institutions. This measure was taken as an effort to prevent the further spread of Covid-19. By suspending regular activities in all educational institutions, it is hoped that the spread of the Covid-19 virus can be minimized (**Guntoro, 2022**). The rapid development of technology in the current era requires humans to coexist with information and technology (**Subandowo, 2022**) (**Suryadi, 2019**). Information and technology can facilitate and solve problems around us (**Faruqi, 2019**). E-learning, as a method of distance learning, can be utilized to adapt to learning needs that support conventional education (**Zamaludin et al., 2016**). In conventional learning, limitations in terms of time, distance, and cost are often encountered. These issues persisted until the advent of e-learning, which helps address these limitations (**Rohman et al., 2018**). E-learning transforms these constraints into opportunities, facilitating the learning process (**Winarno & Setiawan, 2013**).

The Research and Development (R&D) study conducted by Aji Arif Nugroho et al. on the development of a blog as a learning medium for trigonometry revealed that students responded positively to the use of the blog. The findings indicated that the blog can be effectively employed as a supplementary tool in the learning process. Utilizing computers and blogs enables users to acquire specific skills and knowledge **(Nugroho et al., 2017)**.

The development of a blog as a learning medium with the assistance of computers can facilitate students in acquiring knowledge and skills more conveniently. Not only is the information more easily accessible, but it also allows for effortless review, enabling students to more effectively address presented problems **(Supriadi, 2015)**.

The solution focuses on SMP YAPI AL-HUSAENI to design and implement an e-learning system workflow based on the existing teaching and learning activities system at the school, which is currently considered inefficient. The advent of technology has introduced online and blended learning, expanding the possibilities for education. E-learning platforms, virtual classrooms, and digital resources provide flexibility in accessing educational content. Assessment methods have also evolved to include online quizzes, discussions, and collaborative projects.

2. METHODOLOGY

The activity's implementation method consists of two stages: socialization and implementation, followed by training on operating the web-based learning application.

2.1 Socialization

During the socialization phase, introducing the project and its objectives to the relevant stakeholders. During this stage, key participants, including school administrators, teachers, and students at SMP YAPI AL-HUSENI, are informed about the upcoming changes and the benefits of the new ICT learning system. The aim is to create awareness, generate interest, and garner support for the project. This phase may include workshops, presentations, and discussions to ensure that all stakeholders understand the goals and potential impact of the web-based learning system. Figure 1 shows socialization with the ICT teacher of SMP YAPI AL-HUSAENI Process.



Figure 1. Socialization with the ICT teacher of SMP YAPI AL-HUSAENI

Through this socialization stage, participants can thoroughly understand the concept and benefits of using a web-based learning system to optimize the teaching and learning activities at SMP YAPI AL-HUSAENI.

2.2 Counseling

At this stage, counseling was conducted to prepare teachers and students to implement the web-based ICT learning system at SMP YAPI AL-HUSAENI. Participants received a comprehensive understanding of the benefits of web-based technology in learning activities, focusing on the steps for using the application. Counseling sessions included practical demonstrations, case studies, and interactive discussions to address potential barriers. The ultimate objective is to mentally and practically prepare participants to adopt changes in the learning activities process. Figure 2 shows three of the community service team help our partner in how to access the material regarding the web-based learning application.



Figure 2. The team help the partner in how to access the material

2.3 Implementation

The implementation phase involves installing a web-based learning system at SMP YAPI AL-HUSAENI. Practical instructions were given to teachers and students for registration, assignment submission, and prevention of data manipulation. Hands-on training was conducted to ensure users could quickly adopt web-based learning system technology. The objective is to enhance user proficiency in using the application, streamline processes, and minimize errors. Figure 3 shown system homepage planning by Figma Enterprise.



Figure 3. System Planning Homepage by Figma

2.4 Monitoring and Evaluation

The final stage of implementing the web-based learning system is the monitoring and evaluation phase, which involves reviewing the application's performance. The monitoring process begins during the implementation and counseling stages, focusing on the system's functionality and effectiveness. During monitoring, educational materials and assignment data entered into the database are regularly checked to ensure the application accurately records teachers' and students' activities. Evaluation involves comparing the results with the initial objectives and gathering input from users and related parties. This process also includes analyzing the app's impact on learning efficiency at SMP YAPI AL-HUSAENI. The monitoring and evaluation stage results form the basis for continuous improvement and refinement of the application. The partner received these tool by doing handover session from the team (Figure 4)



Figure 4. Handover session from the community service team

3. RESULT AND DISCUSSION

After submitting the web-based learning application materials, the teacher requested a specific format for the application. Our team then created the application according to their specifications. The following is a view of the application.

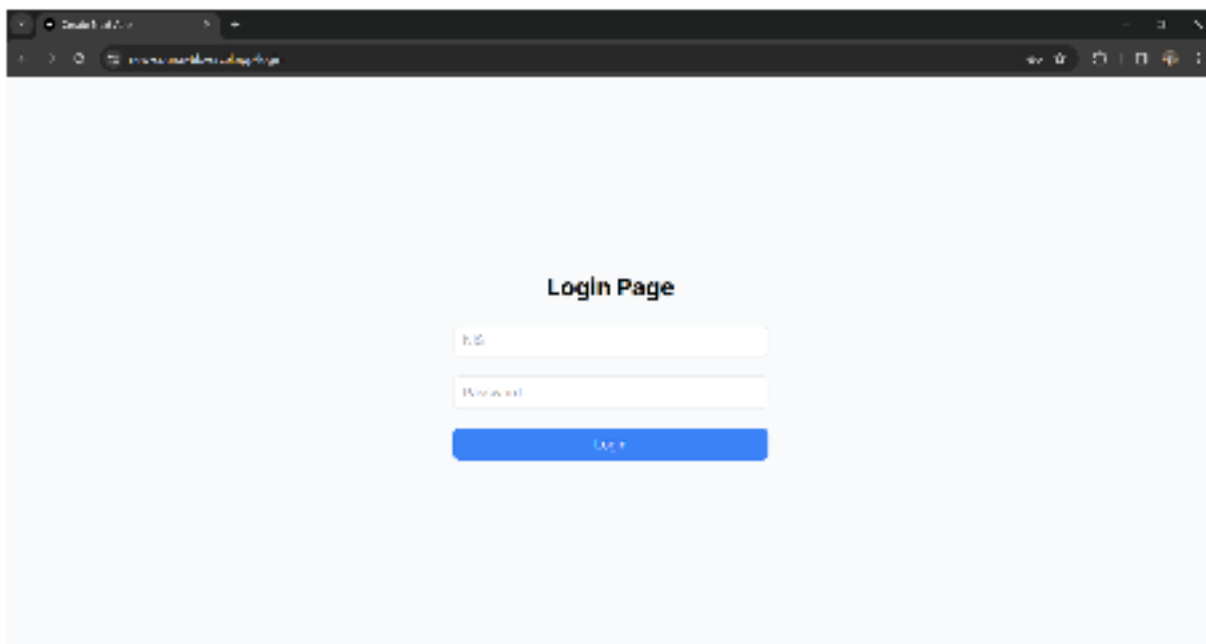


Figure 5. Sign In Page

Figure 5 shows the sign-in page of the web-based learning system application, which is designed with various important elements to facilitate student sign-in. Students are required to fill in the input form, including fields for email and password. Other elements, such as the sign-in button, are also included. If it did successful, the user will be directed to the home page, as shown in Figure 6. The design was created to provide an intuitive and user-friendly experience for app users.



Figure 6. Home Page of SMP YAPI AL-HUSAENI web

On the homepage, as depicted in Figure 6, students can choose which subjects they want to study. These subjects are materials that have been added to the database by the teachers

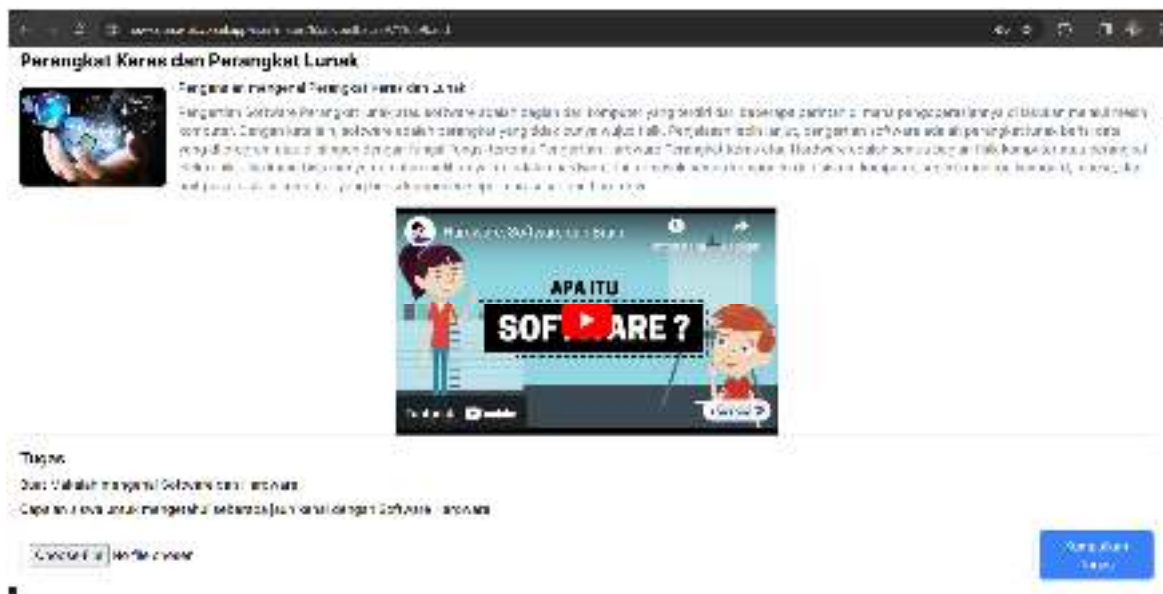


Figure 7. Educational Material and Assignment Page

After selecting an educational material, as shown in Figure 7, students will be provided with detailed information and content prepared by their teachers. Additionally, on this page, if there are assignments to be submitted, there will be a submission section, and students can submit their assignments on this page.



Figure 8. Active Participation of the Student of ICT Subject of SMP YAPI AL-HUSAENI

Figure 8 shows the participation of students from YAPI AL-HUSAENI Junior High School studying at home using the TIK e-learning website. Students can access all the learning materials provided by the teachers. This website facilitates students to study anytime and anywhere.

4. CONCLUSIONS

The program 'DEVELOPMENT OF WEB-BASED ICT LEARNING SYSTEM AT SMP YAPI AL-HUSENI' has been successfully implemented. The team observed that e-learning revolutionizes education with its flexibility, accessibility, and cost-effectiveness. The program was successfully tested with the program partner, SMP YAPI AL-HUSAENI, Bandung City. The principal and administrative team responded positively, and their evaluation will guide further improvements.

E-learning's time efficiency and environmental sustainability make it a dynamic and practical approach to skill development. The following steps require ongoing monitoring, evaluation of user feedback, and refinement to ensure that this application remains an effective tool for managing learning activities at SMP YAPI AL-HUSAENI.

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