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Implementation Of Android-Based Learning Media In System Courses Management Information

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Abstract

The Community Service Partner (PkM) is AMIK Depati Parbo Kerinci, where the problem that occurs is that the learning media used is still conventional, such as lecturers providing material and assignments orally and in writing. Apart from that, if the lecturer is unable to attend, the material and assignments are delegated to the teaching team, sometimes making students not understand the content of the material. This PkM activity aims to implement an Android-based e-task application in the Management Information Systems course, which is an online learning system used for Android-based student assignment applications. This system was created using the Android Studio programming language and uses the Waterfall method with system development tools, namely Unified Modeling Language (UML). Apart from that, the current learning process still uses a one-way method, namely the source of knowledge only comes from lecturers, making students less independent in learning because nowadays there are quite a lot of learning media models, one of which is Android-based learning media. The result of this activity is increased student independence in the teaching and learning process because it uses learning media in the form of an Android-based e-task application so that there is innovation in learning to make students more enthusiastic, creative, and active in learning both online and offline.

Keywords: E-task, android, waterfall, UML.

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Introduction

Technology-based learning is an embodiment of 21st-century learning. Most learning processes use technology in delivering material and practical activities (Rachmadian, 2023) In the development of technology in learning, it is necessary to adapt to have maximum ability and effort. One form of adaptation to the teaching and learning process is creating digital learning media that is effective, meaningful, and able to improve student achievement (Ayu Mustika Sari & Maldin Ahmad Burhan, 2020). Learning media is a tool in the learning process or a means of communication and interaction between teachers and students that initially focused on visuals and audio and then developed with the use of computer technology it whose aim remains to achieve learning objectives. (Al Munawarah, 2019).

Currently, the learning media at AMIK Depati Parbo Kerinci is still conventional, such as lecturers giving material and assignments orally and in writing, so that students' assignments which are collected in the form of sheets of paper are often scattered, this affects the students' final grades. so that students feel disadvantaged by this condition. Apart from that, if the lecturer is unable to attend, the material and assignments are delegated to the teaching team, sometimes making students not understand the content of the material so students need to contact the lecturer concerned again. The assignment collection process is still manual. Where students make their assignments in their respective assignment books and give them directly to the lecturer concerned. It will be difficult if lecturers or students are unable to attend, causing various problems to arise. Because lesson collection assignments still use books, sometimes students' assignment books are lost, resulting in the student not getting a grade and having to do the previous assignment.(Ningsih et al., 2018).

According to Mrs. Elvina Sandra, S.Kom., M.Kom, who is the Chair of the Information Management Study Program, stated that many lecturers teach using conventional/lecture methods, some still use whiteboards and some already use Microsoft Office PowerPoint which is connected to an LCD projector. However, this learning method still makes students bored and lack enthusiasm for learning locally. This can be seen in the learning process, students tend to be

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passive and less active when studying, some of them are sleepy during lecture hours, many students use smartphones during lectures but many do not use them to learning process but rather playing games and other applications that do not support the learning process.

This PkM (Pengabdian Kepada Masyarakat/ Community service) activity aims to implement an Android-based e-task application in the Management Information Systems course, which is an online learning system used for Android-based student assignment applications. This system was created using the Android Studio programming language. By using the Waterfall method with the Software Development Live Cycle (SDLC) approach, the system development tool is Unified Modeling Language (UML) (Ningsih et al., 2020). Apart from that, the current learning process still uses a one-way method, namely the source of knowledge only comes from lecturers, making students less independent in learning because nowadays there are quite a lot of learning media models, one of which is Android-based learning media. The result of this PkM activity is the application and understanding of technology in the form of an e-task application as an Android-based learning medium so that there is innovation in learning to make students more enthusiastic, creative, active and independent in learning both online and offline. To have the ability to think logically, analytically, systematically, critically and creatively as well as the ability to work together as a provision in solving problems in life and as a provision for living life in the future, students need to be equipped with education and knowledge. (Nuryadi et al., 2022).

Method

This PkM (Community service) activity was carried out by 3 teams of lecturers and assisted by 1 student. The method of this PkM activity takes the form of applying technology with training and assistance, the implementation of which includes 5 stages, namely: identification of needs, operational assistance, socialization and technology training to partners, system testing, and technology implementation stage to partners. Throughout these stages, the collaborative efforts of the lecturers and the students provided comprehensive support to effectively integrate technology into the partners' operations, fostering innovation and enhancing capabilities.

The activities of each stage are as follows:

1) Identify Needs

The needs identification stage aims to obtain a work description along with the sequence of implementation of activities which will be used as a guideline for each activity. The activities carried out at the needs identification stage are: (a) Field survey, (b) Conducting interviews with partners about needs in online learning media. The implementation team held a meeting to prepare for implementation. Next, the team carried out outreach in the form of coordination by inviting lecturers and students regarding the program to be implemented. (c) Preparation of training programs. This training program is prepared based on the results of identification, results of problem analysis, results of needs analysis, and results of potential analysis of the learning media that will be applied. This comprehensive approach ensures that the training programs are tailored to address specific needs and challenges identified during the needs identification stage, thereby maximizing the effectiveness of the subsequent stages of the PkM activity.

2) Operational Assistance

Operational assistance is a follow-up action in this activity. The activities that have been carried out in operational assistance are: a) Formation of several student groups based on the incoming class. b) Increase knowledge about technology related to learning media. c) Providing outreach to partners about learning media technology in the form of an Android-based e-task application. During the implementation of this activity, all equipment used for training such as computers and information equipment was provided by the implementing team, while partners participated in providing and preparing training places such as classrooms, electricity, tables, and seats for participants. This collaborative effort ensures smooth execution of the operational assistance phase, facilitating effective knowledge transfer and practical implementation of technology-enhanced learning solutions.

3) Technology Socialization and Training to Partners

Technology outreach and training to partners is carried out so that partners understand the use of technology that will be used in the e-task application as a learning medium. After carrying out socialization and training, observations were

carried out, namely to find out what obstacles, shortcomings, and weaknesses emerged in the training process and students' understanding of the learning technology. These observations serve as crucial feedback mechanisms to refine and improve the training programs and address any challenges encountered, ensuring continuous enhancement of the effectiveness and efficiency of the technology adoption process.

4) System Testing

System testing is carried out before the application is implemented to partners. The purpose of testing this system is so that the PKM team can find out whether this application is suitable for use by partners, so that partners can operate the e-task application effectively and without problems in increasing student independence in the learning process. Through rigorous testing, the PKM team ensures the reliability, functionality, and user-friendliness of the application, paving the way for seamless integration into partners' educational practices and maximizing its potential to enhance student autonomy and engagement in the learning journey.

5) Technology Implementation

At the end of this activity, the lecturer PKM team implemented the use of e-task applications with partners, so that partners, in this case, students, could directly use learning application technology according to the needs and objectives of learning media technology. This final step represents the culmination of collaborative efforts, where the application of technology seamlessly integrates into the educational environment, empowering students to actively engage with innovative learning tools tailored to their specific needs and educational objectives.

Results and Discussion

Pre-Activity

Before this activity was carried out, the PKM team had conducted a survey or direct interview with the Head of the study program to obtain data about what the needs were in the teaching and learning process. Initial preparations are holding meetings and discussions with the PkM team to prepare for the implementation of subsequent activities. The next preparation is for the PkM team to create materials, applications, and training modules which will later be provided to partners. The final preparation is for the team to divide tasks for carrying out activities and prepare the equipment needed during the implementation of PkM activities. In this initial activity, the team collected student data in the management information systems course. The form of this Android-based e-task application can be seen in Figure 1 and Figure 2. These preparatory steps ensure a structured approach to the implementation of PkM activities, facilitating smooth execution and maximizing the effectiveness of technology integration in the teaching and learning process.

Figure 1. Learning Application Menu Display

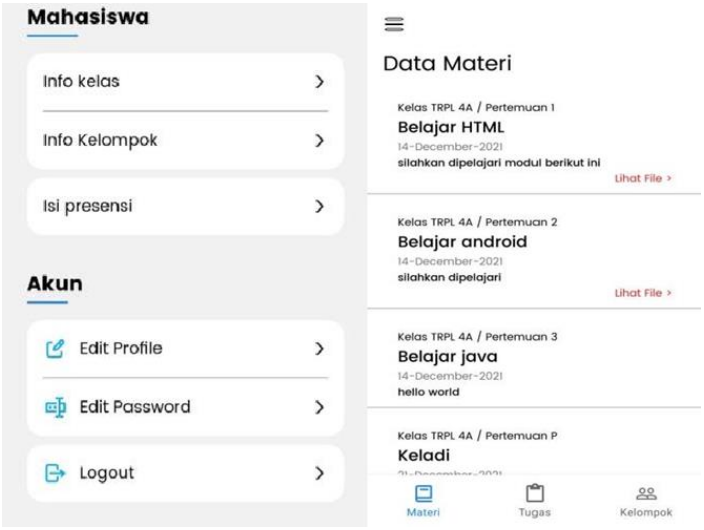

Figure 2. Student Main Page

Implementation of Activities

Implementation of PkM activities is carried out directly at AMIK Depati Parbo, which is located in Kerinci, Jambi City. The activity was carried out for one day specifically for socialization and training on the use of Android-based e-task application learning media technology to partners. After conducting socialization and training, the team implemented the program with partners. Partners are given training on how to use the e-task application effectively. Documentation of the implementation of this activity is shown in Figure 3, Figure 4, and Figure 5. This on-site implementation ensures direct engagement with partners and facilitates immediate hands-on training, fostering effective adoption and utilization of the technology-enhanced learning tools.


Figure 3. Implementation of the E-task Application for Lecturers

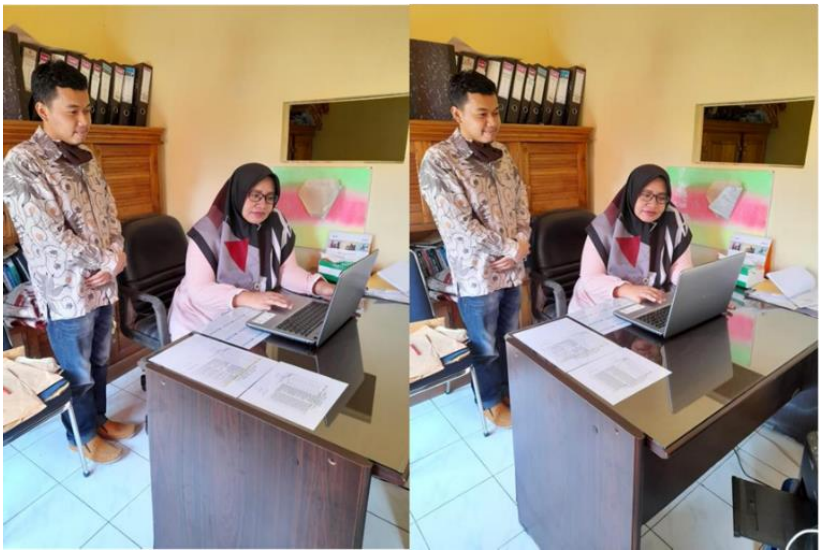

Figure 4. Implementation of Technology Training and Assistance

Figure 5. Group Photo With Lecturers

At the beginning of the activity, there were two material explanations provided by the team to partners, namely what the e-task application was and how to operate it as a learning medium for partners. Partners are given training on the steps to use the Android-based e-task application. The form of training is in the form of delivering material using PowerPoint slides which are presented to partners, namely students and lecturers. This structured approach ensures that partners receive comprehensive information and guidance on the application's functionalities and its integration into the teaching and learning process, facilitating smooth adoption and utilization.

Activity Evaluation

The evaluation and monitoring process is carried out after carrying out the activity using Google Form to review the level of knowledge and satisfaction of lecturers and students with the material provided. Apart from that, the purpose of this evaluation and monitoring is to motivate lecturers and students who can already use e-learning applications so

that students can use them to participate in digital learning. This will enable lecturers and students to be consistent and remain enthusiastic in teaching and learning that is more innovative and uses appropriate technology. Furthermore, via Google Form, participants were asked more specific questions regarding training assistance activities regarding e-learning applications and what they thought of the material presented by the PKM team. Participants were given a list of PKM activity evaluation questions, as shown in Table 1. This comprehensive evaluation process ensures continuous improvement and adaptation of training programs to meet the evolving needs and expectations of both lecturers and students, fostering a dynamic and engaging learning environment driven by technology integration and innovation.

Table 1. List of Questions For Evaluating PkM Activities

No	Assessment	Assessment Questions			
1	Did you know beforehand about Android-based learning media?	So clueless	Do not know	Know	Very knowledgeable
2	What do you think about this e-learning application as a whole?	Very uninteresting	Not attractive	Interesting	Very interesting
3	Is the material presented by the Team useful for the teaching and learning process or broadens your insight?	Very not useful	Useless	Beneficial	Very helpful
4	Can this learning media increase independence in the teaching and learning process?	Not Useful	Can not	Can	Very possible
5	What is your opinion regarding the Team's method of delivering material?	Useful Very	Unclear	Clear	Very clear
6	How does the Team interact with PkM participants?	Very not useful	Not good	Good	Very good
7	Give criticism and suggestions				
8	Give suggestions on what topics you would like to discuss in the next Mentoring Class				

Based on Table 1, looking at the results of the questionnaire filled out by lecturers and students, it was found that 88% of students and lecturers did not know or understand the Android-based e-task application, and 12% stated that they already knew about this application. For responses related to material about Android-based e-task applications, 83% said it was very interesting and 17% said it was interesting. Regarding whether the material presented by the team was useful for learning media or increasing insight, 89% of respondents said it was very useful, and 11% said it was useful. Participants' responses regarding the way the resource material was delivered were 89% who said it was very clear and 11% who said it was clear. Participants' responses regarding the interaction between the resource person and the participants were 88% said it was very good and 12% said it was good. These findings highlight the effectiveness of the training program in enhancing participants' understanding and appreciation of the e-task application, as well as the quality of the delivery and interaction during the training sessions.

Based on the results of the questionnaire, the response from students and lecturers was very enthusiastic and enthusiastic in participating in this service activity. During the activity, it was seen that the participants responded more by asking several questions related to the training material, and strongly agreed with the use of learning media with the Android-based e-task application. Through this activity, partners, namely students and lecturers, can understand the concept of learning media and how to operate Android-based e-task applications. Through this activity, it is hoped that partners, especially students, will increase their learning achievement, by using the e-task application as a learning medium. This positive response underscores the effectiveness of the training program in engaging participants and fostering a deeper understanding and appreciation for technology-enhanced learning solutions, ultimately contributing to enhanced learning outcomes and academic success for students.

Activity Constraints

During PKM activities, there were several things that became obstacles during the implementation of the activity. Firstly, the participant's internet network was unstable due to weather problems, resulting in a poor signal. Secondly, the implementation activities coincided with students' lecture time, leading to many students being absent during the training sessions. Thirdly, the allocated time was too short, resulting in incomplete training assignments for some students. Lastly, the training schedule overlapped with the time when lecturers attended seminars elsewhere, preventing many lecturers from attending the training sessions. These obstacles hindered the smooth execution of the PKM

activities and highlighted the importance of addressing logistical challenges to ensure optimal participation and effectiveness of future training initiatives.

Conclusions

This service activity can increase student independence in learning and making assignments, with the implementation of learning media in the Management Information Systems course using an Android-based e-task application, thereby enhancing students' knowledge about technology applicable in learning. The socialization and training on the application of learning media in the form of e-tasks have had a positive impact on students and lecturers, as evidenced by their increased motivation to enhance their learning independence and innovate in creating assignments through the Android-based e-task application. This positive outcome is reflected in the evaluation conducted by the PKM team following the outreach and training sessions.

Based on the results of the questionnaire filled out by the respondents, it was found that 88% of students did not know about the Android-based e-task application. Additionally, 83% of respondents found the e-task application very interesting, and 89% stated it was useful for the learning process and broadening their insight. Regarding participants' responses regarding the delivery of resource material, 89% found it very clear, and 88% rated the team's interaction with PKM participants as very good.

From the results of this questionnaire, it can be concluded that the training and application of this application can significantly increase insight and knowledge for students and lecturers about technology related to learning media. As a suggestion for the future, this learning media application can be further developed with more innovative and effective methods for higher education, aiming to further improve student achievement through more innovative and creative learning approaches.

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