



Smart Learning of Distance Learning Process Based on Website

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Abstract:

This research aims to analyze e-learning that can make it easier for teachers and students to carry out teaching and learning activities without limitation of time and place. The method used descriptive qualitative. The results obtained from this study are an application that can be used for remote teaching and learning activities, the teacher can enter the material into the application as well as students can access the material anytime and anywhere, besides that teachers and students can still communicate synchronously even without face to face. These results are obtained from the application development process starting from system requirements analysis, software design, application coding, application implementation, application testing, and application maintenance. This study's results can help teaching and learning activities during the Covid-19 pandemic as it is today. The impact is that students can still get lessons according to the curriculum of each level of education, and teachers can still share knowledge with all their students even though they cannot do face-to-face learning.

Keywords: Smart Learning, Distance Learning Process, Website

INTRODUCTION

Smart learning is a learning process that utilizes technology in its implementation. In the 21st century, the explosion of information and communication technology increases digital devices for various purposes in the world of work and formal and non-formal education (Kumar Basak et al., 2018). The learning process by utilizing this technology is generally known as E-Learning. This e-Learning during the Covid-19 pandemic like now is very helpful

for teaching and learning activities. Because there are rules not to do face-to-face meetings at school, tools or media are needed to bridge teachers and students. With this E-learning, teaching and learning activities can still be done. Learning outcomes can still be fulfilled; students can still get their right to study according to the predetermined curriculum; teachers can provide material and fulfill their administrative obligations. However, the successful use of E-Learning depends on understanding the main challenges faced today (Almaiah et al., 2020). Some of the problems that arise in E-Learning application include teachers' inability to access technology, e-learning support facilities, difficulty explaining the material, limitations of students in accessing the internet, the family backgrounds of economically disadvantaged students, and parents' support systems (Lestyanawati, 2020). However, behind all the problems faced, the existence of E-Learning in the Covid-19 pandemic condition is not an excuse for students not learning and teachers sharing knowledge with their students.

There are several previous studies related to this research. First, the research discusses the global view of E-learning application during the Covid-19 Pandemic Lockdown (Radha et al., 2020). Second, the research discusses middle school mathematics teachers' views about E-learning implementation barriers during the Covid-19 pandemic (Almanthari et al., 2020). Third, a study discusses the impact of e-learning during the Covid-19 pandemic between students and teachers in Nepal (Subedi et al., 2020). Fourth, research that discusses distance learning in the Covid-19 pandemic era (Schneider & Council, 2020). Fifth, research that discusses Student Worksheets on distance learning based on scientific literacy (Soegoto & Luckyardi, 2020).

The difference between this research and the first research is in case study research. The difference between this study and the second study is that this study discusses middle school mathematics teachers' views about the obstacles to implementing E-learning during the COVID-19 pandemic. This study only discusses the development of applications for distance learning media. The difference between this study and the third study is that it assesses the impact of e-learning during covid-19 among nursing students and teachers in Nepal, whereas this study discusses distance learning websites' development. The difference between this study and the fourth study is that it discusses the review of certain online resources available for dermatology trainees and encourages colleagues to continue advancing their specialization through distance learning. This study discusses distance-learning aids. The difference between this study and the fifth research is that this study discusses the design and implementation of elementary school student worksheets that can trace scientific literacy through distance learning. Meanwhile, this study discusses the design and implementation of websites for distance learning at the junior high school level.

Therefore, this study aims to help make it easier for teachers and students to communicate by doing distance learning during the Covid-19 pandemic. The learning method is E-Learning. The results obtained are applications that can be used for remote teaching and learning activities. Teachers can enter material into the application and access the material anytime and anywhere. Besides, teachers and students can still communicate synchronously even without face to face directly. This has also been compared with previous studies, so it was finally decided to make a website-based distance learning smart learning.

RESEARCH METHOD

The steps of this research are as follows (Martono & Nurhayati, 2014 and Yauma et al., 2020):

Requirement System

At this stage, analysis is carried out, starting from problem analysis, analysis of hardware and software requirements for application development needs, collecting required

data, and collecting library sources (literature study). Based on this explanation, the system requirements needed for research include:

- Hardware: Computer, Laptop, Notebook, iPad
- OS: Windows, macOS, Linux, Android, IOS
- Processors: Intel Atom, AMD E1
- RAM: up to 500MB
- Browser: Chrome 7.0, Mozilla Firefox 3.6, Internet Explorer 8.0, and Safari 5.0.
- Support: Adobe Acrobat Reader, MS. Office 2007
- Network: 3G / 4G

Planning

At this stage, planning is carried out to estimate the tasks that each actor must carry out, the resources needed in the application development, and the risks that may occur during the application

Design

The design here focuses on software architecture, data structure design, program algorithms, and program views.

Coding and Testing

At this stage, the translation process is carried out from design form to code form (depending on the programming language used)

Deployment

The last stage is the system's implementation stage. Besides, there are also stages of periodic maintenance of the system.

RESEARCH RESULTS AND DISCUSSION

In planning the Smart Learning application, it is divided into three users, namely: students, teacher, and administrator. Program flow created in the form of Entity Relationship Diagram (ERD) is a diagram that explains the relationship between data objects and other data, or it can also be called a relationship. It aims to understand better the E-Learning system's workflow made to all parties involved in making this E-Learning system. The following is an ERD diagram for applications that are built-in Figure 1:

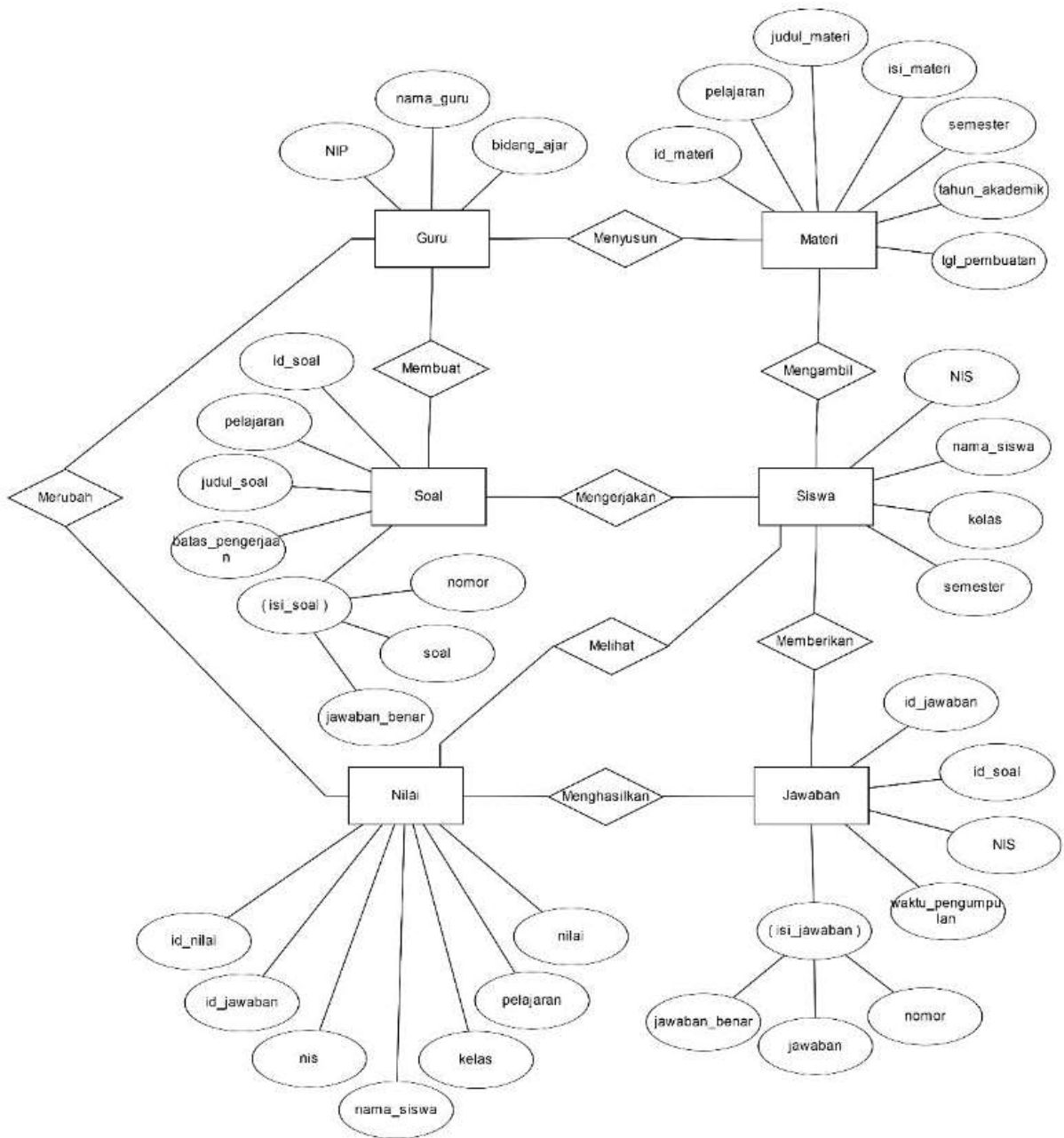


Figure 1. Entity Relationship Diagram

At this stage is also done interface design of the application built. One of the interface plans is shown in Figure 2.

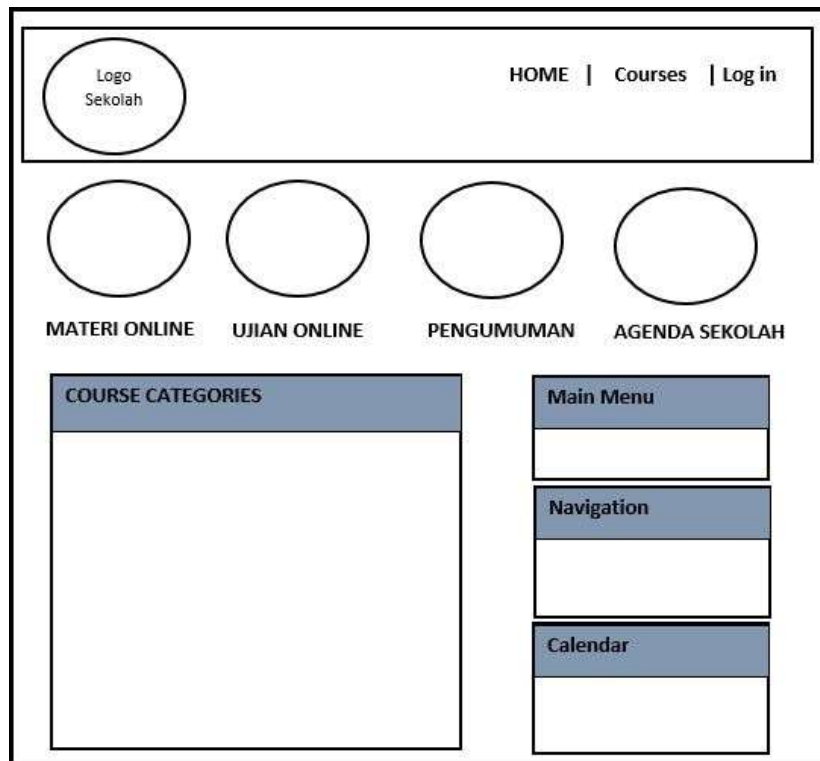


Figure 2. Dashboard

Coding and Testing

Coding is carried out using the PHP programming language (PHP: Hypertext Preprocessor) for making the website. Meanwhile, for the database, using MySQL.

Deployment

After all the stages are completed, this section will carry out the implementation and testing stages. Testing is done by testing neglected and beta testing. Tests are carried out to determine the function of the application, whether it is running or not. Besides that, it is also to know the satisfaction of users.

After all the steps are carried out, the results of an application that can be used for distance learning can be utilized by teachers and students. Compared with previous studies, the results are different because of different research focuses, such as in the same first study making e-learning, it is just different case studies. The second study seen from the point of view of mathematics teachers in the use of e-learning, the third study assessed the impact of e-learning during the pandemic in students and teachers, the fourth study reviewed certain online resources, and the fifth research was on the implementation of elementary school student worksheets (Radha et al., 2020, Almanthari et al., 2020, Subedi et al., 2020, Schneider & Council, 2020, and Soegoto & Luckyardi, 2020). However, with the existence of previous research, it is very helpful in completing this research.

CONCLUSION

E-learning can help teachers improve the learning process's effectiveness and efficiency and assist in achieving learning goals. In addition, students can more easily obtain information related to learning. The role of technology during the Covid-19 pandemic is very influential in overcoming various activities to maximize performance without leaving the house that the government regulates to work at home and study at home. Website is the best

method for implementing e-learning learning because it creates several programming languages on different devices. Websites can create designs that can be used on various devices and are not difficult to access. Just by opening any browser version, any application can be used at its best with low and high specifications.

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