Development of an Information System for Practicum Video Content in the Digital Library of KH. A. Wahab Hasbullah University

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ABSTRACT

A library is a work unit of a particular agency or institution that manages library materials, either in the form of books or non-book materials, that are systematically arranged according to specific rules so that they can be used as a source of information by each user. Although books remain a valuable source of information, many faculties, especially in fields that require practicums, often face difficulties when courses are completed, especially for students who are late to class or absent due to reasons such as work or other commitments. This challenge is even more pronounced for students who are unfamiliar with the course, especially those without a basic education in the field. Additionally, this website is also expected to support students in learning independently after lectures have concluded. The method used in planning research on the video content development system for practical work at the Unwaha digital library is the Waterfall Model, which encompasses analysis, design, testing, implementation, and maintenance phases. In data collection, quantitative methods are employed, including questionnaires and embedded techniques to collect video data. The results of this study indicate that 50% of the respondents considered this video tutorial website to have a significant influence on their learning motivation. Additionally, 54.2% of respondents considered this video tutorial website effective in supporting distance learning.

1. INTRODUCTION

The library is a facility provided by schools to expand knowledge outside the teaching and learning process in educational institutions such as schools and universities. Renatha in (Agazali & Myori, 2020).

According to (Panggabean, 2024) a library is a work unit of a particular agency or institution that manages library materials, both in the form of books and non-book materials (non-book materials) which are systematically arranged according to certain rules so that they can be used as a source of information by each user. In this digital era, many libraries have turned to online learning websites to provide virtual services. The main purpose of the library is to provide library materials, including books, which are important for developing reading interests and habits.

While textbooks remain a valuable source of information, many faculty, particularly those in fields that require practical work, find that textbook material alone is not enough to put their knowledge into practice. Hands-on experience and access to interactive learning resources are often key to gaining deeper understanding and practical skills that cannot be gained from text alone.

Students often face challenges when a course is finished, especially those who are late to class or absent for reasons such as work or other commitments. This challenge is even more pronounced for students who are unfamiliar with the course, especially those without a background

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in the field, who may find it difficult to grasp the concepts and follow through on the learning process. Their understanding of the material can be reduced, making it difficult to grasp the concepts taught and follow through on the learning process effectively.

The lack of opportunities for independent practice also exacerbates this situation, as students may feel pressured or lack confidence when faced with projects or assignments that require independent application of concepts. If this problem is not addressed, it can negatively impact students' ability to succeed in courses that require practical work to master essential skills in the workplace.

Therefore, to overcome this problem, a solution is needed in the form of a website that collects practical videos based on categories where the videos are taken from lecturers, as an alternative to replacing traditional practical sessions. In this study, all videos were produced by lecturers who are experts in their fields, to ensure the relevance and quality of the material presented. The quality of student learning can be affected if the information presented varies and is not always relevant to the curriculum. Based on this background, this study aims to design and develop a website containing a grouping of practical videos based on fields at KH University. A. Wahab Hasbullah, in order to help students overcome practical difficulties, especially for those who have limited time.

2. METHOD

Based on research conducted by (Fitria et al., 2020), one of the approaches in software development that is widely applied is the waterfall method. This method follows a linear development flow, starting from analysis, design, implementation, testing, and maintenance. Before proceeding to the next stage, each stage must be completed first. This method is suitable for projects with clear and not too complex specifications.

The following are the steps in the Waterfall Method that can be applied in the "information system for developing video content for practical work at the KH. A. Wahab Hasbullah University digital library" This journal presents only four stages, in the form:

1. Analysis

   This process includes a collection of practical videos based on relevant categories, where each video comes from a lecturer who is relevant to the practical subject.

2. Design

   The second step is to design the system in detail starting from coding. This includes creating technical and functional specifications, designing database structures for grouping practical videos.

3. Testing

   Once the system is built, the next stage is to test the system to ensure that the system is functioning according to the desired specifications.

4. Maintenance

   The final step is system maintenance to ensure that the system continues to function properly. This includes maintaining the system, making repairs and upgrades, and providing technical support to users. Maintenance also involves regular monitoring of the system to ensure that the video data displayed to users remains accurate and accessible without problems.

   The steps taken by researchers in collecting data include:

   1. This interview was conducted by researchers with 34 students in writing using Google Forms to make it easier to record and draw conclusions. This interview is used by

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researchers to find out the advantages and disadvantages of the learning platform that has been made. As well as accommodating and following up on suggestions given by students.

2. In this video data, researchers collect practicum videos through embed techniques that take videos from lecturers, which are assessed by the admin of this application as the most appropriate for the courses taught and adjusted according to categories in the form of fields in the faculties at KH. A. Wahab Hasbullah University. These videos are then displayed in the practicum video grouping on the website.

Use case diagrams are used to explain system design to users and design all the features in the system to be built (Hasanah & Untari, 2020). This explanation is supported by the three most common UML diagrams. However, in this journal only two diagrams are displayed in the form of Use Case Diagrams and Activity Diagrams, namely as follows:

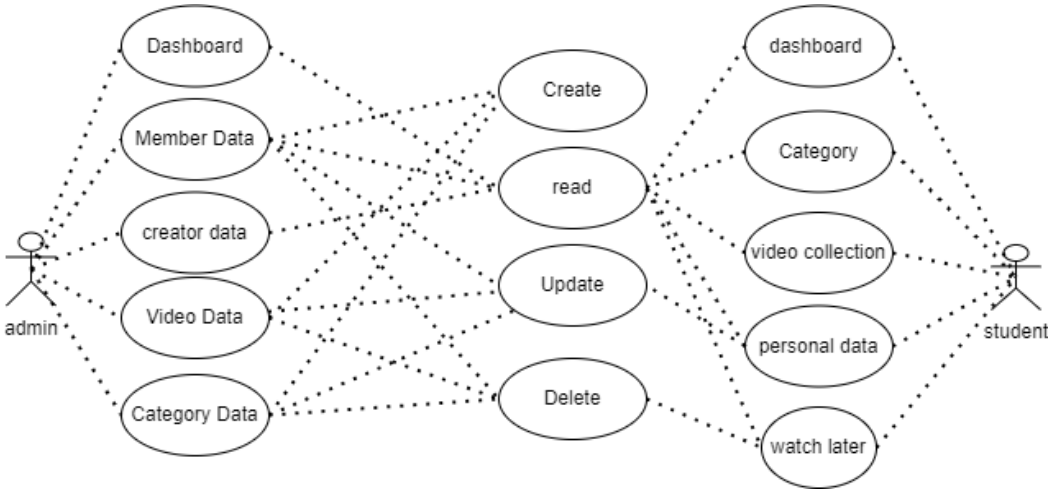

Figure 1. Use Case Diagram Admin and Students (users)

The Use Case in Figure 1 helps the author to design a website that will be built, such as the admin being given a useful feature to manage data that will be displayed to users in the form of students, then students are given access to view the display in the form of data that has been added by the admin.

An activity diagram, or "Activity Diagram," is a diagram used to describe the logical flow of a system in the form of activities. This diagram shows the structure of the system process, including how data is accessed and how the system operates. Activity diagrams are used to illustrate the system workflow and the underlying procedural logic.

The following is an Activity Diagram created to describe the login process by users (students) and what students can access after logging in, where after successful login students can access the video collection menu, categories, watch later, and update their identity student.

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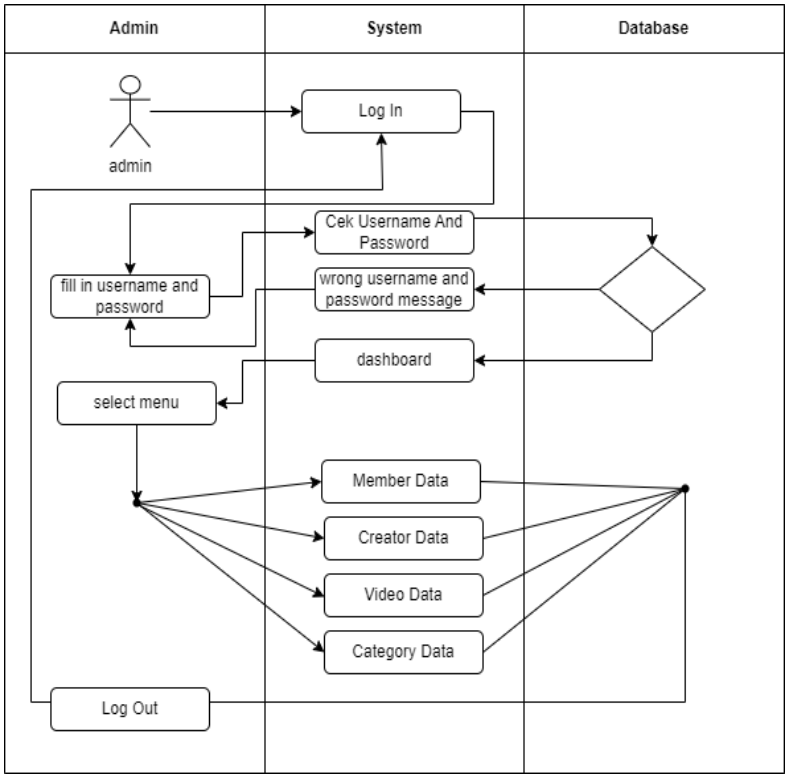

Figure 2. Admin Activity Diagram

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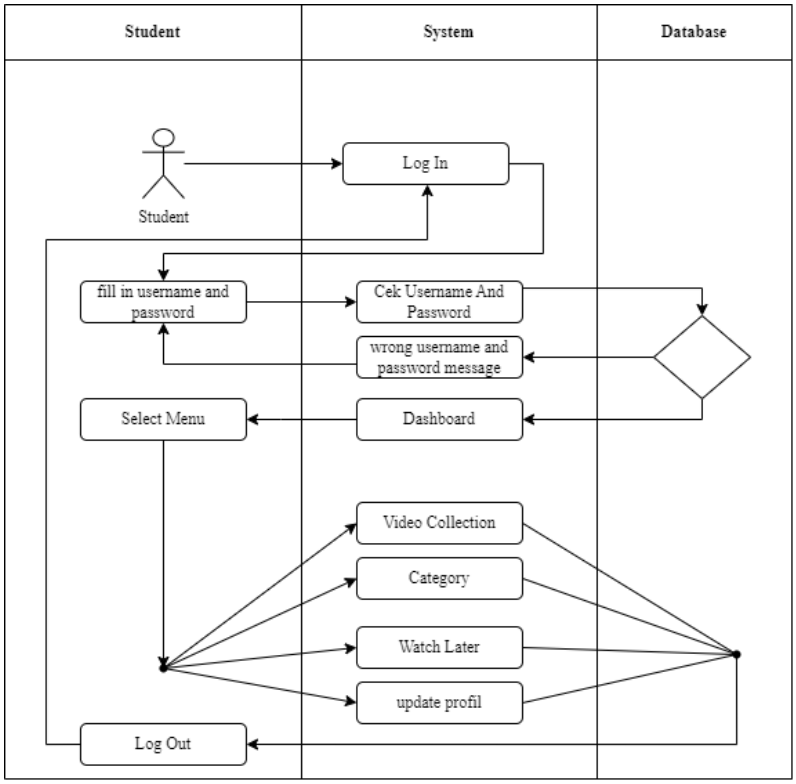

Figure 3. Student Activity Diagram

3. RESULTS AND ANALYSIS

After designing the system architecture and determining the required functionality, the researcher will proceed to the implementation stage. This implementation includes selecting the right and relevant programming language to build the application. The researcher will convert the system design into concrete programming codes. After the code is complete, the testing stage will begin to verify the system's performance according to the specifications that have been set. This testing involves various scenarios to detect and resolve errors or bugs in the implementation, as well as ensuring that each feature functions correctly and optimally before proceeding to the next development stage.

3.1. Implementasi Interface

Implementation of the interface on each page created in the application, only three views are displayed in this journal, namely as follows.

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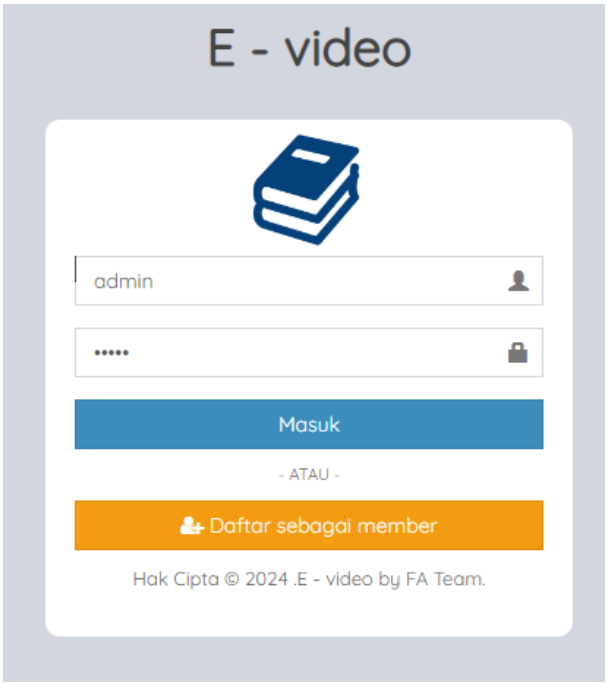

Figure 4. Login Forum For Admin and Users

Figure 4 Only students can register on this website, while admins only have access to the admin login section with one admin account..

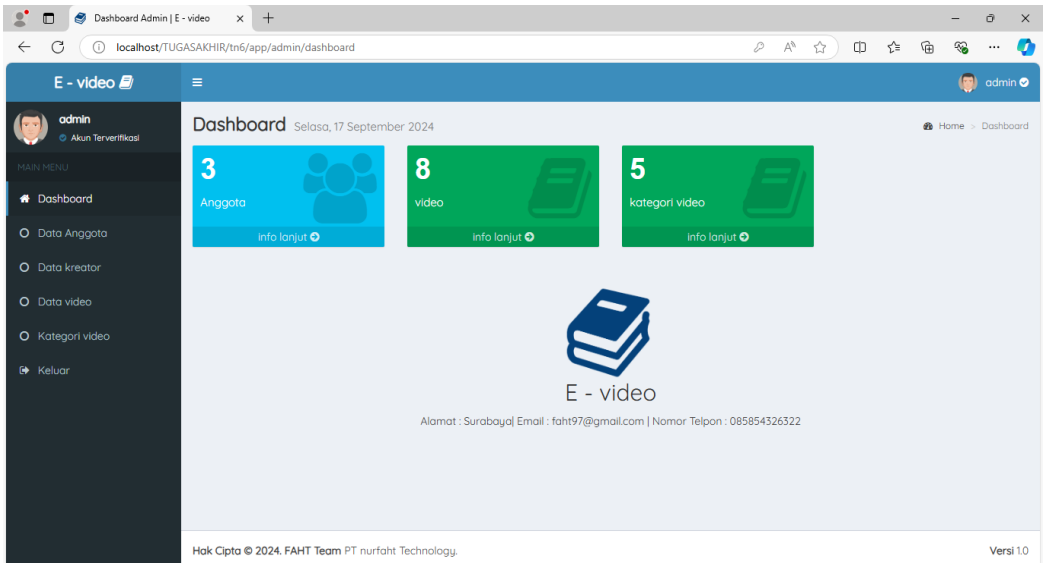

Figure 5. Dashboard Admin

Figure 5 admin can only control data in the form of adding, editing and deleting member data, creator data, video data and video categories that will be displayed on the student display.

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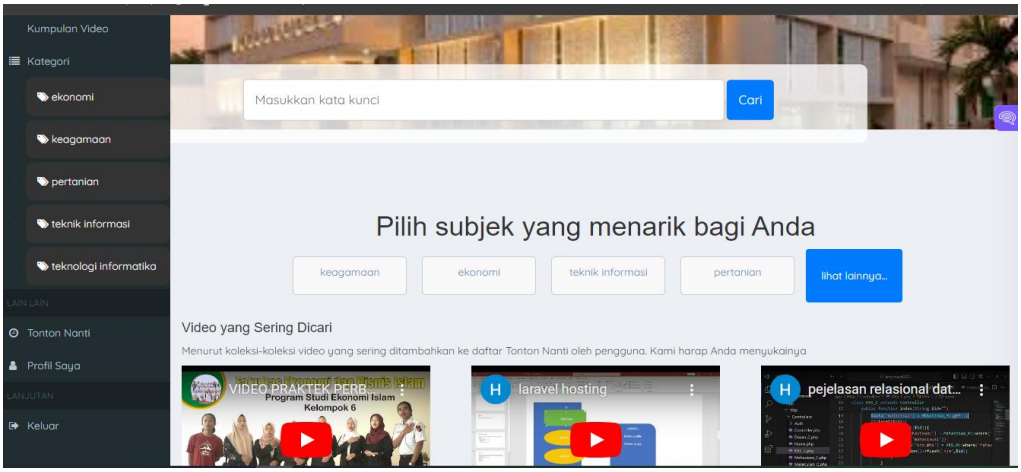

Figure 6 Dashboard Users

Figure 6 shows the view accessed by students, where they can only see the student dashboard, video categories, manage the 'Watch Later' list, and the student profile.

3.2. Testing

This system was tested using the Black Box method. In this approach, testing is done by providing various inputs to each application component without knowing in detail how the system processes the input. The purpose of this test is to ensure that the output produced is in accordance with the functional requirements that have been set. If the output is appropriate, the system component is considered to have passed the test. However, if the output is not appropriate, it means that there is an error that must be corrected in the component.

The results of the test after designing this website were filled in via the Google form Student responses to the web collection of practical videos From 48 students.

The following is a graph after the website was designed:

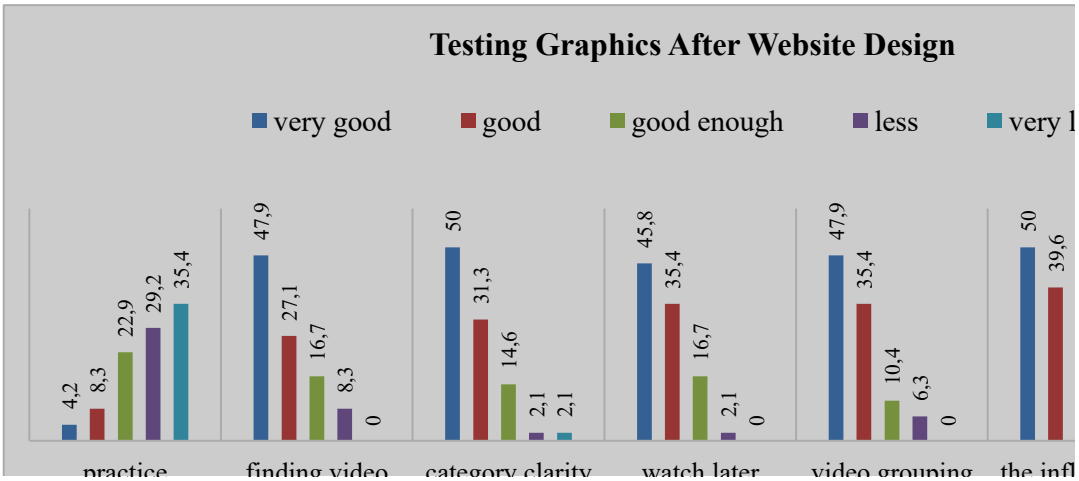

Figure 7.Testing Graphics After Website Design

The explanation of the test results in the graph in Figure 7 namely from respondents in the form of 48 students, shows that:

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35.4% of respondents in the graph above, the term very lacking indicates that respondents find it very difficult to practice their knowledge outside of class hours.

47.9% of respondents find it very easy to find practical video topics on the website. The word "very good" in the graph indicates that students find it very easy to find the videos they need.

50% of respondents stated that they were very satisfied with the clarity of the categories and subcategories contained in the practical video collection website. In the graph above, the term "very good" refers to a high level of satisfaction, which means that 50% of respondents were very satisfied with the clarity of the categories and subcategories contained in the practical video collection website.

45.8% were very satisfied with the watch later feature in helping students save practical video tutorials to watch later. In the graph above, the term "very good" refers to 45.8% of respondents who were satisfied with the "watch later" feature, which helps students save practical video tutorials to watch later.

47.9% of respondents considered that the visual appearance of the website in grouping these video tutorials was very good.

50% of respondents considered that this video tutorial website greatly influenced learning motivation. In the graph above, the term "very good" indicates respondents who felt an increase in enthusiasm for learning thanks to this video tutorial website.

As many as 54.2% of respondents considered that the video tutorial website was effective in supporting distance learning. In the graph, the term "very good" reflects a high level of effectiveness in supporting the distance learning process.

The conclusion of the video tutorial website system testing shows that this platform has great potential in supporting the student learning process. Testing using the black box method ensures that all main features, such as login, member management, video categories, and the "watch later" feature function properly according to the expected specifications. Although there are some features that need improvement, overall the system runs optimally.

Testing using a questionnaire also gave positive results. Before the website was designed, the majority of respondents considered the existence of video tutorials as an additional learning resource important. After the website was designed, students gave good responses to the usability, ease of navigation, and features that support their learning experience. This is reflected in the increase in learning motivation and the effectiveness of the website in supporting distance learning. Overall, this website is considered to have made a significant contribution in helping students understand the practicum material and providing easy access to video-based learning resources.

4. CONCLUSION

Based on the results of research that has been carried out in information development of practicum video content in the Kh University digital library. A. Wahab Hasbullah plays an important role in the world of education, but faces big challenges in the digital era, especially in providing easy and relevant access for users. Students often have difficulty understanding practical programming material due to limitations in applying theory to real code, especially if they are late or absent from lectures. Lack of opportunities for independent practice exacerbates this situation.

As a solution, this research proposes the development of a digital library website that provides a collection of practicum videos with the title "Information System for Practicum Video Content Development in the Unwaha Digital Library". This website is designed to organize videos based on certain topics in the form of categories, making it easier for students to repeat practical material and deepen their understanding. Students can take advantage of a practical and easily accessible video collection website to support independent learning anytime and anywhere.

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Practical Video Content Development Information System in the KH Digital Library. A. Wahab Hasbullah University is expected to reduce students' difficulties in understanding practicum material, especially for those who cannot take part in practicum directly or have limited time. With this platform, students can access practice videos according to relevant categories and topics, so they can study independently and repeat material they have not yet mastered.

5. ACKNOWLEDGEMENTS

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6. DECLARATION OF COMPETING INTEREST

We declare that we have no conflict of interest.

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