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Implementation Simulation Application of Library Accreditation Assessment of Indramayu State Polytechnic

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ABSTRACT

A library is a place that contains a collection of library materials used for study purposes or for reading purposes only. However, there are some libraries that have not implemented an assessment system in their management. Therefore, it is necessary to have a system as a supporting material to meet the accreditation assessment standards that have been set. So, an application was made to assist in conducting an assessment at the Indramayu State Polytechnic Library using the Laravel framework and in its development using the waterfall method. With this application, it is hoped that it will be able to facilitate the library in conducting assessments to achieve assessments that are in accordance with predetermined standards. The focus of this application development is focused on the accreditation assessment simulation process in the library. The results of the tests that have been carried out are running well, this application has succeeded in meeting the expectations that have been set previously, namely with an average value of 83.3% of the questionnaire calculation results.

ARTICLE INFO

1. INTRODUCTION

According to the Random House Dictionary of the English Language, a library is a place, in the form of a room or building that contains books and other materials for reading, study or reference. Libraries are not only for storing and searching books but also for finding a variety of information, from scientific information, history to popular information [1]. However, for Higher Education libraries only provide information related to needs such as scientific or semi-scientific and some fiction stories. When compared to public libraries, they usually provide more information that is semi-scientific to popular information but, there are some public libraries that provide information related to history, fiction stories to actual and factual information.

In the Indramayu State Polytechnic library, many library materials related to various information needed such as scientific information, history, to fiction stories are found in this library. however, at this time the library world continues to be faced with demands for the quality of services provided. in the end the library must always be responsive and adaptive to every change and progress that is useful for improving service quality.

Nowadays, libraries are always related to assessment or evaluation. Assessment is a form of appreciation of an organization or institution that is used to determine eligibility or synchronous standards using certain qualifications that can reflect the quality of an organization. The benefit of this assessment is to evaluate the performance of the library. Therefore, it is necessary to have a system as a simulation support in the assessment carried out to improve the quality of library performance.

2. METHODS

This Accreditation Assessment Simulation Program works directly with application users who will be applied at Indramayu State Polytechnic which aims to help facilitate accreditation assessment in the library. The location of this library is within the scope of the Indramayu State Polytechnic, namely, in the GSC Building 2nd Floor.

From the problems found in the library, it is hoped that this application [2] can facilitate the accreditation process precisely and quickly. The implementation method of the library accreditation assessment simulation program that will be carried out is as shown in **Figure 1**:
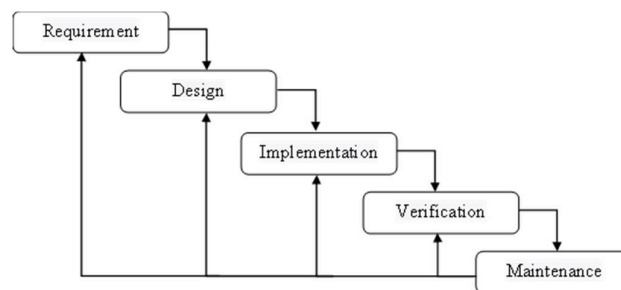

Figure 1. Activity Flow.

From **Figure 1**, the stages of the library accreditation assessment simulation program activities are divided into 5, namely requirements, design, implementation, verification, and maintenance [3-5].

The requirement stage is the stage for identifying problems found in partners, namely the interview process with the Indramayu State Polytechnic library team which aims to

determine the creation of a system that will be made according to partner needs. The second stage is design, after analyzing the needs of the library and getting the results of the analysis, the results can be used to determine functional requirements, design databases and create mockups. The third stage is implementation, at this stage you can implement the system design that was previously made. Implementation of the library system consists of user pages or visitor pages, and admin pages. The fourth stage is verification, at this stage a test will be carried out by the library team to find out the system that has been made meets the functional needs. The last stage is maintenance, at this stage a periodic inspection of the system that has been made is carried out with the aim of knowing the function of the system is still running well or not.

3. RESULTS AND DISCUSSION

This research produces a library accreditation assessment simulation application designed using the Unified Modelling Language (UML) [6-8] which consists of use cases [9], [10] activity diagrams [11], [12] , flowcharts [13], [14], and class diagrams [15], [16]. This system is made using Visual Studio Code software for writing application program code and using the PHP programming language [2], [17] with the Laravel framework [18], [19]. The results of the design and manufacture that have been carried out in this study produce an Indramayu State Polytechnic Library Assessment Simulation Application. This system is used to conduct accreditation assessments and provide information on the library.

3.1 Database Implementation

In making this accreditation assessment application, a database is needed, the purpose of the database is to store every data in the accreditation application [20], [21] The tables contained in the accreditation assessment application are user tables, accreditation tables, news tables, library team tables, image slider tables, category tables, service tables, component tables, sub component tables, sub-sub component tables, question tables, sub question tables, and option tables.

3.2 System Design

System design is a design or description of the system to be created. With the system design, it can be modelled using functional modelling and is able to make the application because there is already a flow picture of the system to be created [22]. The data process of the accreditation assessment simulation system can be modelled with use case diagrams, activity diagrams, and class diagrams.

1) *Use case diagram*

In general, use case diagrams can be used to represent the purpose of system interaction with users. Use case diagrams on the Library Assessment Simulation Application have two actors, namely admin and visitor actors as shown in **Figure 2**.
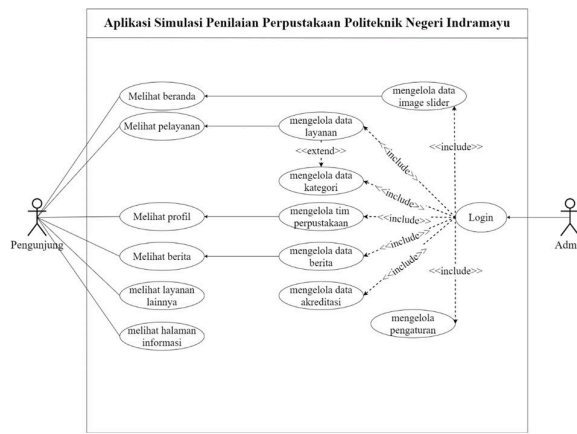
Figure 2. Use Case Diagram.

3.3 System Implementation

This stage is the system design stage that implements the program environment, such as implementing the user interface.

1) Landing Page

The implementation of the landing page interface is displayed when library visitors want to find information related to library materials or just want to see the facilities in the library as shown in **Figure 3**. On the landing page there is a profile menu in which there is a profile related to the library, on the service menu contains services or facilities in the library, on the other services menu contains e-books that have been provided by the library, and finally the information menu contains contact information and library operating hours. In addition, there is a display of news or announcements in the library.
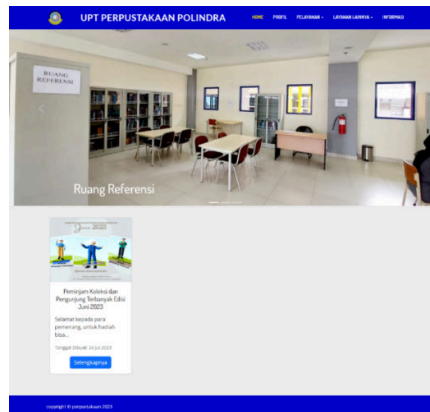

Figure 3. Landing Page.

2) Login Page

The login page is displayed when the admin or library team wants to update data such as slide images on the home page, news on the home page, organizational structure that appears on the profile page, updates related to photos or service descriptions in the service menu, and wants to update the assessment in accreditation. **Figure 4** shows the interface of login page.
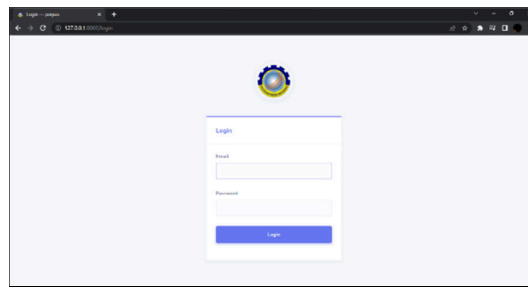
Figure 4. Login Page.

3) Accreditation Page

This page is displayed when the admin wants to update library-related assessment data or can be called an accreditation assessment. The accreditation process is carried out when the admin chooses the components that he wants to assess according to his needs. There are 9 components that need to be assessed in this accreditation system, after the component has been answered, a value will appear which will determine accreditation. If the value does not meet accreditation, it will appear that the library does not meet the accreditation assessment. However, the score can be done repeatedly according to the updates in the library. When the assessment has been done, the results can be saved as needed. **Figure 5** shows the interface of accreditation page.
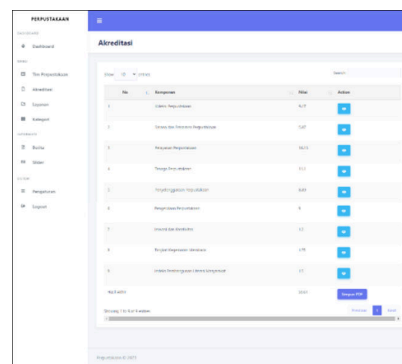

Figure 5. Accreditation Page.

3.4 System testing

This stage is a stage carried out after the system implementation has been completed, the system needs to be thoroughly tested to ensure whether the system is in accordance with the software requirements or not. This test usually includes functional testing and feature testing contained in the system.

1) Questionnaire testing

Application testing through this questionnaire was carried out by involving 5 levels of respondent users as shown in **Table 1** [23-26]. Each respondent will be asked questions about the feasibility of the Indramayu State Polytechnic Library Assessment Simulation Application.

Table 1. Value Index.

Value Index	Description
A	Very good
B	Good
C	Simply
D	Less
E	Very Less

Based on the results of testing through a questionnaire on the Indramayu State Polytechnic Library Assessment Simulation Application, it runs well. The results of the percentage of testing using a questionnaire for 2 levels consisted of 10 respondents for the admin, and 11 respondents for visitors. With a total of 21 respondents, the average value of the questionnaire calculation results was 83.3%. From these results, it shows that the application that has been made is in the good category to use.

4. CONCLUSION

The conclusions that can be drawn after collecting, processing, analyzing, implementing and testing the Indramayu State Polytechnic Library Assessment Simulation Application are as follows:
1) This application is made only web-based using the waterfall development method and the Laravel framework.
2) This application was created to assist the library in accreditation assessment and as supporting material for accreditation, which will later bring up the value obtained when the library team fills in the answer choices in this application.
3) This application can help library visitors to get information related to the library and can find out about the facilities in it.
4) The results of the tests that have been carried out in chapter 4 are running well, this application successfully fulfills the previously expected categories and is good for use.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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