DESIGNING WEB-BASED LIBRARY APPLICATIONS AT ATTAUFIQIYYAH JUNIOR HIGH SCHOOL USING THE CODEIGNITER FRAMEWORK

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Abstract

In the design of this library application, the programming language used is the web-based programming language, PHP, utilizing the Code Igniter Framework. The database employed in the design of this library application is MySQL. The aim of this research is to develop and design a Library Application and determine the system's feasibility by users at SMP Attaufiqiyyah. The method utilized in this research is the PIECES method (Performance, Information, Economic, Control, Efficiency, and Service). The results of this research illustrate that with a computerized library application, the staff no longer need to manually write book and member data, as well as borrowing transactions. They no longer have to search for book data on shelves and book stacks, simplifying the book search process for students. The conclusion is that with an online library system, the staff no longer need to manually record borrowing and returning data. With this library system, the staff no longer need to double-check book data. This system facilitates staff in conducting transactions from borrowing to returning books and handling fines.

Keywords: Library, Website, FrameWork, CodeIgniter

INTRODUCTION

Education is a human need. Education always undergoes changes, developments and improvements in accordance with developments in all areas of life. Changes and improvements in the field of education include various components involved in it, both the implementation of education in the field (teacher competence and the quality of educators), the quality of education, curriculum tools, educational facilities and infrastructure and the quality of education management including changes in more innovative learning methods and strategies. Attempt change and those improvements aims to bring a better quality of Indonesian education. As a system, the library consists of several work units or parts that are integrated through a system used for processing, compiling and servicing collections that support the running of library functions.

In the library every day there must be many people who do activities such as reading, borrowing books and returning books that have been borrowed. The service of these activities and the management of library data carried out computerized in a library application certainly makes it easier for librarians to manage library data, loan and return transactions and facilitate Visitors library in obtaining information from the library.

However, at the library of Attaufiqiyyah Baros Serang Junior High School (SMP), the service of borrowing and returning books is still carried out, manually. This results in data security and accuracy is less guaranteed and requires a long time in the process of library service and data processing, making the performance of librarians ineffective. In addition, library members also have difficulty in finding books in the library. Therefore, a computer software application is needed for the management of

this library. Based on the description above, to fulfill this final project, the author wants to make a library service application at Attaufiqiyyah Baros Serang Junior High School (SMP).

In designing this library application, the programming language used is a web-based programming language, namely PHP with FrameWork CodeIgniter version 3.0. The database used in the design of this library Application is MySQL. The popularity of MySQL is partly because MySQL uses SQL as the basic language to access its database so that it is easy to use, fast query performance, and sufficient for the database needs of medium-small scale companies. MySQL is also open source and free (you don't have to pay to use it) on multiple platforms (except on Windows, which is shareware). In this library application program there are 2 users, namely officer users (administrators) and library members. In the officer user, there are several processes including input and update of book data, input and update of member data, input of library head data, book borrowing and return transactions, editing data and making reports (loan recapitulation). While at the member level, it is only limited to the process of searching for books, filling in guest books and book information (book stock).

This library application has several advantages including: that is Library members can see book collections and book stock in the library by searching for books in this library application, making it easier for library members to obtain information about books contained in the library.

Librarian staff will also have no difficulty in calculating fines because in this application there is an automatic calculation of fines based on the loan date   and   the date of return of the book as well as in the preparation of the book loan report. This application also uses a database so that all data will be stored neatly, guaranteed security and accuracy of the data and the process of collecting books can be done quickly, precisely and accurately.

THEORETICAL FOUNDATION

Some previous research that has been carried out regarding the design of new student admission applications is a research conducted by Ihsan Rabbani in 2021 entitled "Web-Based Library Application Design at SDN 036 Ujungberung Bandung City" In this study, its application at SDN 036 Ujungberung Bandung City serves as a means of supporting students and teachers in teaching and learning activities. The ongoing library system still has shortcomings such as book collection, searching for book data, return loan transactions and library data reports are still carried out with manual processes. The purpose of this study is to find out how the system and procedures of the library are running, to find out the design of web-based applications in libraries, to find out the testing of web-based applications in libraries, and to find out the implementation of applications that are running in the library SDN036 Ujungberung Bandung City. The design of a web-based computerized Web-Based Library Application at SDN 036 Ujungberung Bandung City is expected to help library visitors such as book borrowing and returning activities and searching for books, as well as for librarians in checking the status of borrowing and returning, entering new book stock data and available, and the creation of reports on library activities for each month.

Research conducted by Agus Rahmat Kasmirin in 2020 with the research title "Web-Based Library Application Design (Case Study of SMAN 1 Penmediaan)", Web-Based Library Application Design at SMAN 1 Intermediary serves as a means of supporting students and teachers in teaching and learning activities. The ongoing library system

still has shortcomings such as book collection, searching for book data, return loan transactions and library data reports are still carried out with manual processes. The purpose of this study is to find out how the library system and procedures are running, to find out the design of web-based applications in libraries, to find out the testing of web-based applications in libraries, and to find out the implementation of applications that are running in the library of SMAN 1 Intermediary. The design of a Web-Based Library Application at SMAN 1 Web-based computerized intermediary is expected to assist library visitors such as book borrowing and returning activities and searching for books, as well as for librarians in checking the status of borrowing and returning, entering new and available book stock data, and making reports library activities for each month.

Research conducted by Yusri in 2019 with the research title "Web-Based Library Application at Junior High School Brother Makassar", This study aims to design a web-based application in the library of SMP Frater Makassar and to implement the library application that has been designed. This research was conducted from June to August 2015 at SMP Frater Makassar. The data were collected using observation techniques, and documentation. While the software used is PHP as a programming language, MySQL as a database manager. The results showed that a web-based library application has been designed and tested at SMP Frater Makassar that can produce information about the circulation of computer-based library management effectively and efficiently.

METHODS

Application Development requires proper analysis to be able to map in advance the problems and weaknesses of the old system. There are several methods that can be done in analyzing the system, one of which is the PIECES method (*Performance, information, economic, control, efficiency,* and *service*). To identify problems, an analysis of performance, information, application security, efficiency, and customer service must be conducted. This guide is known as PIECES analysis (*performance, information, economic, control, efficiency,* and *service*). From this analysis, several main problems are usually obtained.

RESULTS AND DISCUSSION

Implementation is the implementation, or assembly of any plan, method or design, model, idea, specification, standard, or policy for doing something. Thus, implementation is an action that must follow any initial thought in order for something to actually happen. In the context of information technology, hardware implementation includes all processors involved in something that operates well in its environment, including analyzing requirements, installation, configuration, customization, running, testing, system integration, user training, and manufacturing as needed.

Application Installation Procedure Steps

a. Login page

It can be seen on the login page, officers and students must enter a username and password to enter the application, if the username is wrong it will not be able to enter and be returned to the login menu for Enter the correct username and password.

b. Dashboard Page

can be seen on the dashboard there are several menus, in the header there is toogle navigation useful for closing and opening the header, logout to exit, dashboard to return to the dashboard, user data to manage user data, data
> to manage book data, shelf data and category data, > transactions to manage book borrowing and return data and fines to manage fines for students who are late returning books.

c. User Data Menu

It can be seen that there are several functions on the user data page including Add User to add user data, edit icon to change user data, delete icon to delete user data and print card to print member card.

d. Books Menu

It can be seen that there are several functions on the book data page including: Add Book function to add book data, edit icon to change book data, delete icon to delete book data and details to see book details.

e. Category menu

It can be seen that there are several functions on the category data page including: Add category function to add category data, edit icon to change category data, delete icon to delete category data.

f. Shelf Menu

It can be seen that there are several functions on the shelf data page including: Add shelf function to add shelf data, edit icon to change shelf data, delete icon to delete shelf data.

g. Lending Menu

There is 1 function and 1 table, the Add Loan function serves to add loans and a table to display borrower data.

h. Capture Menu

It can be seen that there are several functions and 1 table, the first function is the icon again functions to return the book, if the student returns the book the meal must press the back button and the delete icon to remove members from the return table.

i. Fines Menu

It can be seen that there are several functions including Add Fine Price to increase the nominal fine, Edit icon to change the Fine nominal and disable Icon to disable the fine.

CONCLUSION

Based on the results of the discussion described in the previous chapters, the author can draw the following conclusions:

1. With the library application at Attaufiqiyyah Junior High School get Make it easier for officers to process book data.
2. With the library application at Attaufiqiyyah Junior High School, now officers no longer have difficulty in finding book data as well as the process of borrowing and returning books.
3. With the library application at Attaufiqiyyah Junior High School Reporting on borrowing and returning books has been done Directly Computerized.

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