Development Of A Library Information System Based On *Web* At State Vocational School I Lobalain

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Abstract

This thesis discusses the Development of a Web-Based Library Information System. This type of research is research and development (R&D) using the Waterfall system development model with five stages, namely: analysis, design, implementation, testing, maintenance. The research discusses 2 important objectives in this research, namely producing a web-based library information system and describing the feasibility of a web-based library information system at SMK Negeri 1 Lobalain. The development process in this research produced a web-based library information system with a display consisting of 7 main menus, namely Location/Shelf, Category, Publisher, Books, Loans, Returns and Members. Meanwhile, the feasibility test for a web-based library information system can be proven by data from validation results from media experts I, II and validation by I librarians, which can be seen with a final score of 84.9% with a very good feasibility level and the results of product validation questionnaires from students with a final score. 90.68% of eligibility qualifications are very good, no need for revision so it can be concluded that the web-based library information system is very effective, efficient and easy to operate and according to the results of the questionnaire the web-based library information system is suitable for use in the library processing process at SMK Negeri 1 Lobalain

Keywords: Information Systems, Web, Library

INTRODUCTION

Education is one of the pillars supporting a nation's progress. Currently, and in the future, education and technological development are in the spotlight. This will be a challenge that will continue to evolve in line with development standards of *Science and Technology*. One of the technological developments is information systems. Information systems are components that are interconnected with the process of creating and delivering information within a company, which processes input in the form of data sources, then processes it with other components of *hardware*, *software*, and *brain ware* and produces information as output Marimin at.all, (2016:18).

Technological developments and the need for information systems are crucial, requiring information to be accessible anytime and anywhere. One medium that has become increasingly familiar to the public today is websites. Web site system related to documents used as media to display text, images, multimedia, and others on the Sibero internet network (2013:11), one of which is the creation of a library information system.

A library information system is a computerized process for processing data within a library. With the development of computers, they can be utilized to simplify administrative processes in libraries, making library management more effective and efficient. The current system for recording book collections, member data, staff data, author data, borrowing, returning, and fines is still done by writing in books, which is considered ineffective and inefficient for library management. Therefore, everything is processed using a computer software certain such as software process or database. Library staff can always monitor book availability, new book lists, book loans and book returns. The library at SMK Negeri 1 Lobalain has various facilities, according to 2024 records there are 6,814 book collections, 72 inventories, and 762 members registered in the SMK Negeri 1 Lobalain Library but in the process of managing borrowing and returning books which is still done manually, that is, it is still written on the book.

Based on the results of interviews with the library manager of SMK Negeri 1 Lobalain, it is known that the library has several obstacles including difficulty in finding the desired book, frequent loss of books due to poor management of loan transaction recording data, in addition to book collection data, library inventory data, library member data. Long queues occur when students circulate loans, membership registration is also found to be an obstacle because prospective members have to wait quite a long

time to get a library membership card, the time of issuance of membership cards cannot be confirmed so that newly registered members cannot borrow books before getting a library membership card. In addition, the SMK Negeri 1 Lobalain Library only has one permanent librarian whose job is to carry out circulation transactions manually, making the work of serving all library visitor activities take quite a long time. The explanation above shows that this school really needs a library-based information system of web to provide convenience for librarians in processing library data quickly, easily and effectively. Therefore, researchers aim to create a library information system based on web to facilitate computerized library processing using MySQL as database and PHP as the programming language.

Based on these conditions and problems, the researcher is interested in conducting research with the title "Development of a Library Information System Based on Web at State Vocational School I Lobalain"

METHOD

a. Metode Research and development

The type of research used is research and development Research and development (R&D), research that uses methods to produce certain products and test the effectiveness of these products.

b. Data Collection Method

In this study, the researcher used data collection methods through observation, interviews, and questionnaire distribution. In this study, observations and interviews were conducted at SMK Negeri 1 Lobalain to observe the process of borrowing and returning books. The researcher also distributed questionnaires to students. The author used questionnaires to obtain data from respondents after using the product in the form of a web-based library information *web* system. The scale used in this research and development is the Likert scale. Alternative answers using the Likert scale are: very good (SB), good (B), less (K), very less (SK)

c. Software Development Methods

Research and development procedures for library-based information *web* systems in this study using a development model of *waterfall* or a waterfall. *The* waterfall *model* is an example of software engineering development that requires developers to plan and schedule all development activity processes before carrying out the actual engineering (Basrianto, 2022). The research stages that must be passed if using the software engineering development model waterfall consist of *requirement definition, system and software design, implementation and unit testing, integration and system testing dan operation and maintenance.* System development model of *waterfall* can be seen as follows:

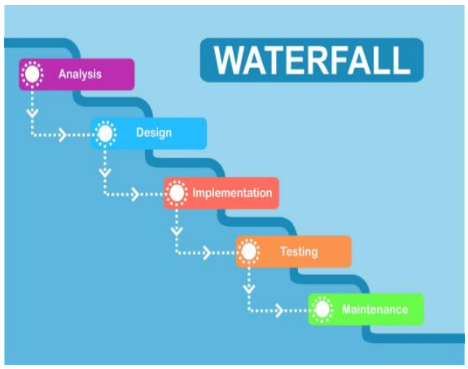

Figure I Waterfall Model

RESULTS AND DISCUSSION

a. Description of the Library System

The system created by the researcher is a web-based library system. This library system is intended for SMK Negeri 1 Lobalain. The web-based library system provides information about book data and how to borrow books.

b. Product Display

The display design of the Web-Based Library System of State Vocational School I Lobalain is as follows:

Figure 2 Login View

The login page is used by admins, students, and teachers to enter the library information system using a username and password.

Figure 3 Home Page View

On the homepage, admins can manage menus such as location/shelf, categories, publisher data, book data, borrowings, returns, and member data. The homepage displays several notifications, including total book titles, total members, total transactions, and total fines.

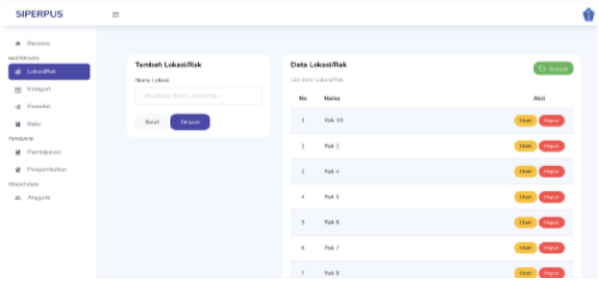

Figure 4. Location/Shelf Menu Display

The location/shelf menu displays bookshelf name data with several fields for number, name, and action. The category menu contains several functions: add, refresh, search, delete, and edit.

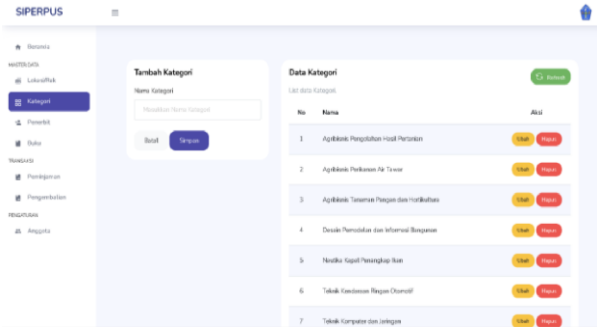

Figure 5. Book Category Menu Display

The category menu displays book category data with several fields: number, name, and action. The category menu contains several functions: add, refresh, search, delete, and edit.

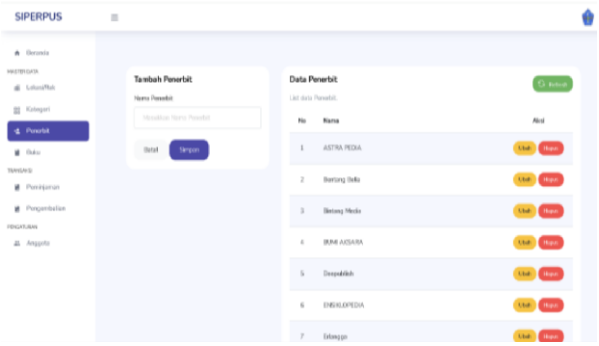

Figure 6. Publisher Menu Display

The publisher menu displays book publisher data with several fields for number, name, and action. The category menu contains several functions: add, refresh, search, delete, and edit.

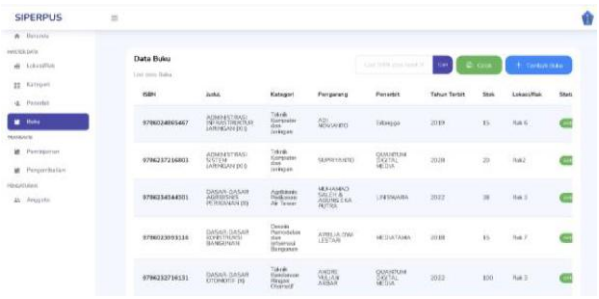

Figure 7. Book Page Menu Display

In the book menu display, there is book data with several fields such as ISBN, title, category, author, publisher, year of publication, stock, shelf location, status and action. In the book

menu there are several functions, namely add, search, edit, delete, and action.

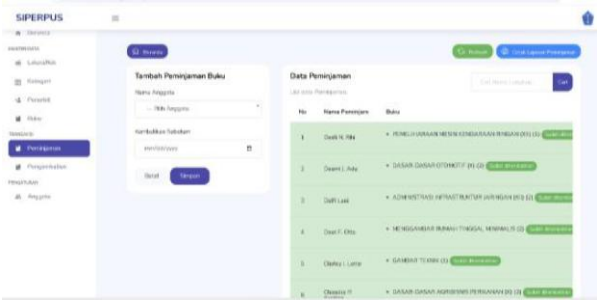

Figure 8. Book Borrowing Menu Display

The display on the loan menu contains loan data with several fields such as borrower name, book, loan date,
restore before, and action. The restore menu contains several functions, namely add, refresh, search, delete, edit, action, and print restore report data.

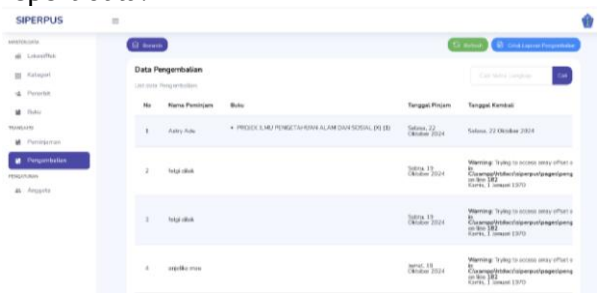

Figure 9. Display of the Book Return Menu Page

The returns menu displays return data with several fields such as borrower name, book, borrowing date, return date, fine information, and action. The returns menu includes several functions: add, refresh, search, delete, edit, take action, and print return report data.

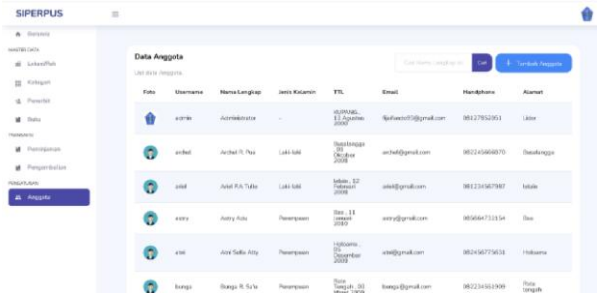

Figure 10. Member Menu Page View

The member menu displays member data, including several fields such as name, password, gender, address, phone number, level, profile photo, and actions. The user menu contains several functions: add, search, edit, and delete.

CONCLUSION

Based on the results of research carried out using this type of research *and development (R&D)* by using a system development model of *Waterfall* with five stages, namely: *analysis, design, implementation, testing, maintenance*. The research discusses 2 important objectives in this research, namely Producing a Library Information System Based on Web and Describe the feasibility of a Library Information System Based on *Web* at SMK Negeri 1 Lobalain. The development process in this research resulted in a library information system based on web with a display consisting of 7 main menus, namely Location/Shelf, Category, Publisher, Book, Borrowing, Return, and Member. Meanwhile, for the feasibility test of the library information system based on web can be proven by the data from the validation results of media experts I, II and validation by I librarian can be seen with a final value of 84.9% with a very good level of feasibility and the results of the product validation questionnaire from students with a final value of 90.68% with a very good feasibility qualification, no need to be revised so it can be concluded that according to the results of the questionnaire the web-based library information system is suitable for use in the library processing process of SMK Negeri 1 Lobalain.

SUGGESTION

Based on the research results in this study, the researcher makes the following suggestions:

1. For students, it is hoped that they can utilize the library-based information *web* system as a media container *online* in the process of managing borrowing and returning books without long queues and avoiding difficulties in finding the desired book and managing lost books.
2. For librarians, it is hoped that they will be able to use a web-based library information system in the library processing process at SMK Negeri 1 Lobalain as a system that has been proven to be feasible based on the validation results that have been carried out.
3. For schools, it is hoped that they will always direct students to utilize web-based library information systems which have been

proven to be suitable as efficient, effective and easy to operate *online* media in the library processing process at SMK Negeri 1 Lobalain.

4. For future researchers, they can develop web-based library information system products by adding other features to develop them into a more perfect form.

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