



Design and Development of a Website-Based Library Information System at Valentine High School

Lianjus Obrai Sitio

Manajemen Informatika, AMIK MEDICOM Medan

Article Info	ABSTRACT
<p>Corresponding Author: Lianjus Obrai Sitio E-mail: lianjussitio@gmail.com</p>	<p>Advances in information technology provide great opportunities to improve the effectiveness of data management in various fields, including school libraries. This study aims to design and develop a website-based library information system at Valentine High School as a solution to the manual system that has been used so far. Data collection methods were carried out through observation, interviews, and documentation to obtain relevant information related to system requirements. The developed system includes features such as login, user data management, book data, categories, shelves, borrowing, returns, fines, and membership card printing. The system implementation uses software such as Adobe Dreamweaver CS5 and XAMPP, with minimal hardware support of a Dual Core computer and 4 GB of RAM. The results of the study show that a website-based library information system can speed up the service process, improve data accuracy, facilitate information storage and presentation, and reduce errors that often occur in manual systems. Thus, this system can be an effective solution in improving the quality of library services at Valentine High School.</p> <p>Keywords: Information System, Library, Website, Valentine High School, Data Management</p>

This is an open access article under the [CC BY-NC](https://creativecommons.org/licenses/by-nc/4.0/) license



INTRODUCTION

The development of information and telecommunications technology is currently undergoing rapid change, especially in the field of computer technology. This technology has transformed lifestyles and significantly impacted several aspects of society. Developing an educational system requires robust data processing to produce efficient, accurate, and up-to-date information. Libraries are integral to students' pursuit of knowledge. The facilities provided by schools are highly beneficial for all students if they are fully utilized. Library collections should be updated periodically in accordance with the government's educational system. However, not all libraries implement technology in library activities such as book lending, membership registration, book searches, and so on. This results in library activities being conducted manually or using bookkeeping.

A library is an institution or place where a collection of reading materials, such as books, journals, magazines, and other media, is stored, organized, and made available for borrowing or use by the public or library members. It is an essential resource for facilitating education, research, and personal development. Libraries also often offer additional services such as

educational programs, seminars, and exhibitions to broaden the public's knowledge and interests.

Currently, Valentine High School lacks a robust library information system to manage all data related to library data management. Everything from registering members, books, borrowing and returning books, to generating library management reports is still done manually. This often produces inaccurate results and is time-consuming due to the manual management process. The author's purpose in making the final assignment proposal is: To develop a systematic, structured, and computerized library information system that can be used by Valentine High School to overcome the weaknesses of the manual system currently used. With this library information system, it is hoped that it can speed up the process of completing library work, thereby saving time, costs, and improving the quality of student services.

METHOD

To need the right data to be able to analyze problems and create application systems. The author uses the following data collection techniques:

a. **Observation**

Observation is a process carried out to observe with the aim of collecting relevant data and information, in the context of research, this observation is carried out using scientific methods.

b. **Interview**

Interviews are a method of collecting data by obtaining direct questions and answers from sources related to the object being studied, namely the Valentine High School library staff.

c. **Document**

A document is a written record, printed matter, or other medium containing information, data, or notes on a specific topic. Documentation is necessary to verify the completeness of other data.

IMPLEMENTATION

Definition of Implementation

Implementation is the process of transforming a plan, idea, model, policy, or program into concrete action. More broadly, implementation encompasses various efforts undertaken to ensure that a plan is realized according to its stated goals and objectives.

Understanding System Implementation

System implementation is the process of implementing and operating a new or updated system in an organization or work environment. This process includes various stages ranging from planning, installation, configuration, testing, user training, to post-operational maintenance. The purpose of system implementation is to ensure that the newly implemented system functions properly and can meet the identified needs and objectives.

As for the main objective of system implementation is:

1. Increase Efficiency and Productivity.
2. Reducing Errors and Improving Accuracy.
3. Providing Timely and Accurate Information.
4. Facilitating Decision Making.

To realize the system that has been designed in the information system, other facilities

are required in principle, usually referred to as technical aspects, namely:

1. *Hardware*
2. *Software*
3. *Brainware*

Requirements *Hardware*

Implementing the proposed system requires equipment to support the program creation process. The author requires a minimum of a dual-core computer with 4 GB of RAM.

Requirements *Software*

Hardware this is not will solve the problem or will not be usable without the software. The software in this case is a website-based information system program at VALENTINE High School, which was created using several software programs, namely the Windows 10 operating system, Adobe Dreamweaver CS5, and Xampp.

Brainware Requirements

Brainware are human resources who will later play a role as users or system administrator. The brainware required as an administrator will then work as a server, ensuring it runs smoothly to serve requests from clients accessing the server.

Programming Implementation

1. Login Page Form

Form The login page is the initial form that will connect to other forms by entering a username and password to be *able* to log in.



Figure 1 Login Menu Form

2. Main Page Form

On the main page form will display the *profile*, menu and dashboard page on SMA VALETINE.



Figure 2 Main Menu Form

3. User Data Form

In the User data form, a *form* will be displayed to manage user data, namely data input, edit, delete and print user cards.

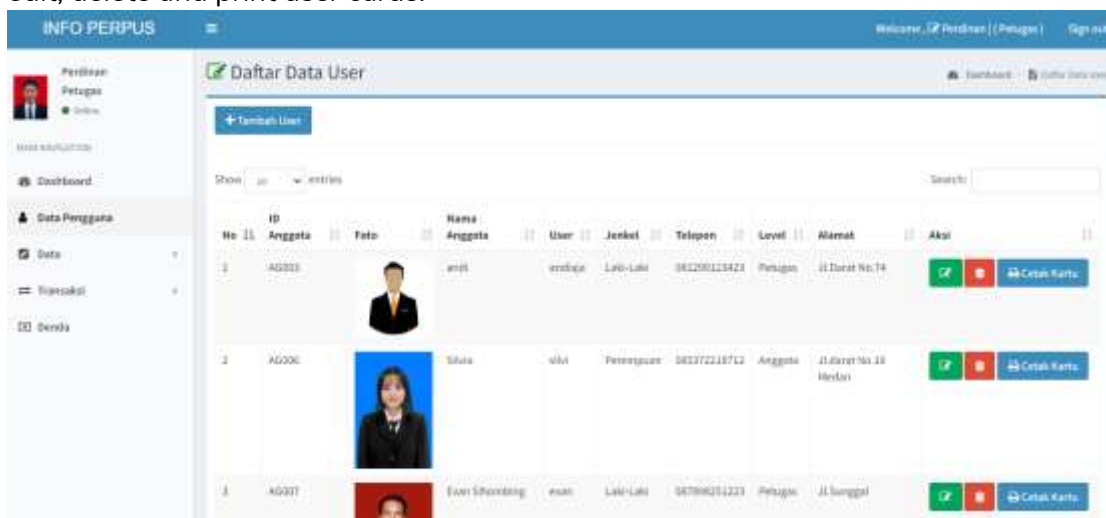


Figure 3 User Data Form

4. Book Data Form

On *the* form book data will displayform for managing book data, namely book input, book editing, book details and book deletion.

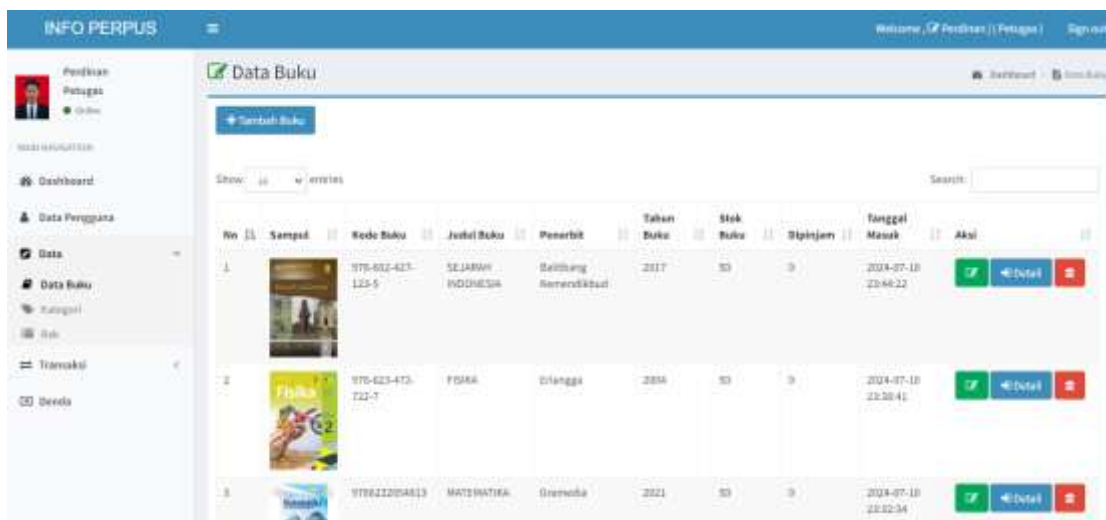


Figure 4. Book Data Form

5. Category Data Form

The category data form will display a form that is useful for managing category data, namely inputting categories, editing categories and deleting categories.

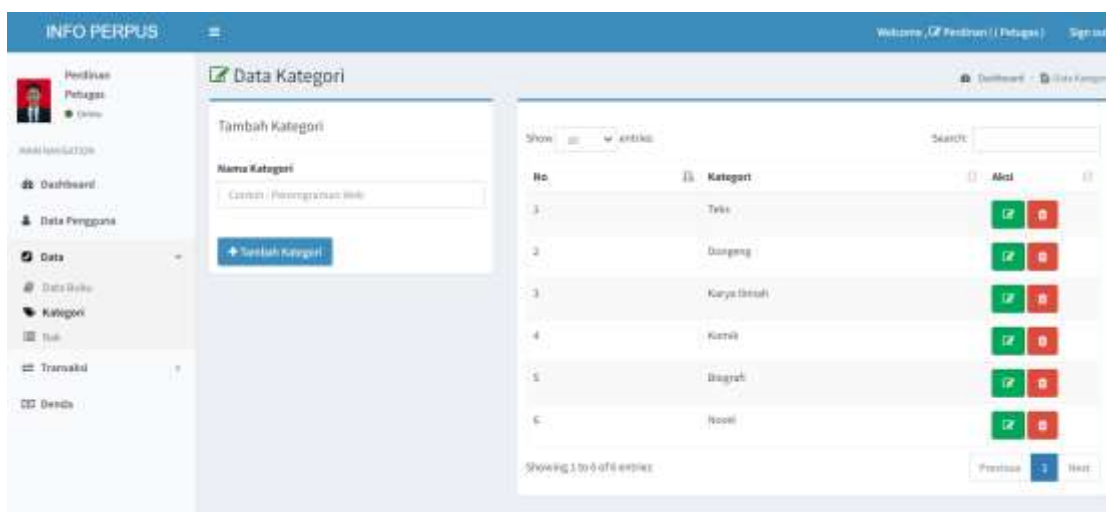


Figure 5 Category Data Form

6. Shelf Data Form

The *shelf* data form will display a useful form for managing shelf data, namely shelves, edit shelves and delete shelves.



Figure 6 Shelf Data Form

7. Loan Data Form

The loan data form is a page that *contains* information for managing the book loan process.

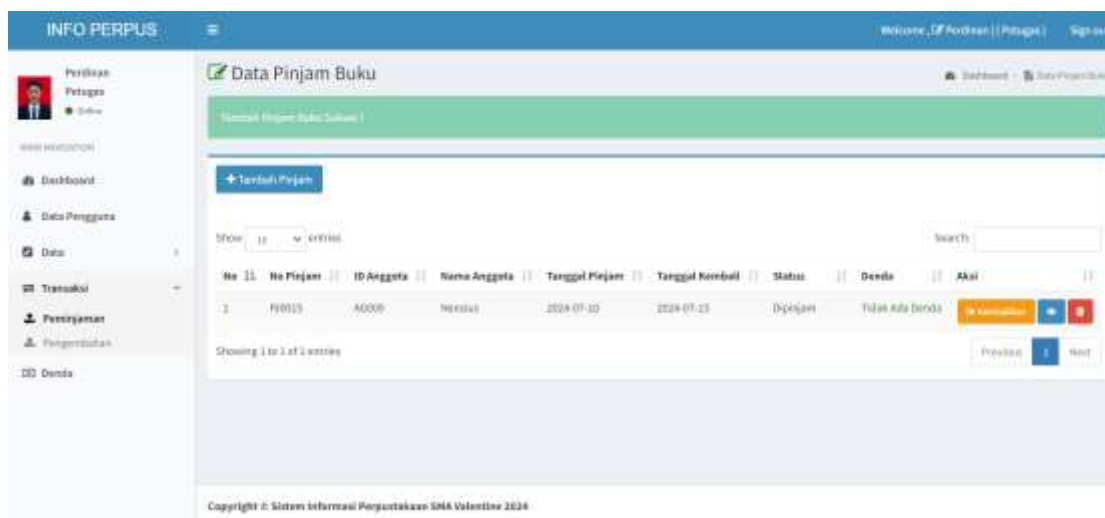


Figure 7 Loan Data Form

8. Return Data Form

On the return data form is a page *that* contains information for managing the book return process.



Figure 8 Return Data Form

9. Fine Data Form

On the fine data form is the page that *manages* loan fines.



Figure 9 Photo of Fine Data

10. Print User Card

This *form* is useful for printing library user cards.



Figure 10 Print Membership Card

CONCLUSION

Based on the research and discussions in the previous chapters, it can be concluded that this website-based library information system is more effective than a manual system because it can speed up student service times, making it easier to borrow and return books. A website-based library information system allows for faster and more effective data processing, making it easier to store, update, and present library information.

REFERENCES

- Ir. Hou Amin, M.M., M.BA. , Susianto, SE., M.A. , et. al. Sistem Informasi Manajemen: Yogyakarta, 2020.
- Dachliyani Liya, S.Sos., M.Pd. Manajemen Informasi Perpustakaan . Jakarta : Bee Media Pustaka, 2019.
- Wibowo Hamid Sakti 2023 “Pedoman Perpustakaan: Panduan Praktis Mengelola Perpustakaan” <https://shorturl.at/irEK5> akses 06 Maret 2024.
- Mahendra Gede Surya, S.Pd., M.Kom . 2023 “BUKU AJAR PEMOGRAMAN BERBASIS WEB” <https://shorturl.at/bilO9> akses 06 Maret 2024.
- Fitri Rahami, S.Kom., M.Kom. 2020 “Pemograman Basis Data Menggunakan Mysql”<https://shorturl.asia/a8kFB> akses 06 Maret 2024.
- Ir. Mahargiono Pontjo Bambang, M.M dan Prof. Ir. Oetomo Hening Widi, M.M., Ph.D., 2020 , “ E-Commerce Aplikasi PHP dan MySQL pada Bidang Manajemen” <https://shorturl.asia/IPXRr> akses pada 06 Maret 2024.
- Elgamar 2020 “Konsep Dasar Pemograman website dengan php” <https://tinyurl.com/y7ze7nw3> akses pada 07 Maret 2024.
- Prasetyo helmi Adi dan Yudhanto Yudho dan 2019 “mudah menguasai framework laravel” <https://shorturl.asia/Fh6b2> akses pada 08 Maret 2024.
- Sahputra M. Harry K dan Aprilian Lusia Violita 2020 “Belajar Cepat metode SAW” <https://shorturl.asia/tT1Ld> akses pada 08 Maret 2024.
- Santi Indyah Hartami 2020 “Analisa Perancangan Sistem” <https://shorturl.asia/FQla3> akses pada 08 Maret 2024.