



Design Of Automation Institutional Repository Library System Of Web-Based National University Using Open Source "Senayan 9: Bulian

Muhammad Rayhan¹, Moh. Iwan Wahyuddin², Winarsih³

Informatika

Fakultas Teknologi Komunikasi dan Informatika, Universitas Nasional, Jl.Sawo Manila, Pasar Minggu, Kota Jakarta Selatan, Daerah Khusus Ibukota Jakarta 12520

Email: kuhakujobril@gmail.com, iwan_wyd@yahoo.com, winarsih@civitas.unas.ac.id

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ABSTRACT

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The rapid technological development in the Digital Age spurred every organization to participate in implementing it in order to facilitate work and improve services. The library as a repository of professional institutions also participated in implementing the automation system. The National University as a professional institution also needs to develop an automation system that applies Free Open Source Software (FOSS) technology. The Senayan Library Management System (SLiMS) application that utilizes WEB-based on FOSS can be implemented as a repository automation system. Compared to other library automation systems, SLiMS 9: Bulian has many advantages. In addition, SLiMS has a large community network in almost every city in Indonesia and even abroad.

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1. Introduction

The rapid development of technology in the Digital Age spurred every organization and institution to participate in implementing it to simplify work and improve services. The library as a repository of professional institutions also participates in implementing the automation system as one of the applications of WEB-based technology to provide optimal facilities for the academic community so that they can easily access information and literature that are needed for academic and research purposes.

Libraries utilize ICT in an effort to provide optimal service to its users. According to Purwono in the form of library automation and application of information technology (digital library). Both can be separate or integrated in an information system, depending on the ability of the software used, HR, and ICT equipment infrastructure that supports both.

According to observations of other sources, the lack of information about the library's automation system is compounded by the mistaken assumption that implementing this system requires substantial funds to be a major obstacle. That's why they still use the manual concept service system (ledger system).

In reality, high competition in the computer business world makes hardware prices more affordable; even some software for application repository automation systems is free. This should be a great opportunity for libraries in Indonesia.

Based on the author's observations, the National University has not utilized library automation systems. Although there is a link that refers to the National Library of the Republic of Indonesia. This is of course very inadequate, especially for students who are going to write a thesis. Comparative studies with senior thesis are very necessary to find out the field of study that has been done, must be reviewed, or studies that have not been done. Based on this experience the author feels the need to contribute to the alma mater in order to improve the culture of reading and literacy based on WEB. This not only provides convenience in service but also can provide information faster to all users anywhere without having to go to the library (campus).



1.1 Problem Formulation

What is the effort to implement a library automation system through FOSS with the use of SLiMS9: Bulian to facilitate online library services (digital libraries) at the National University and what obstacles may be encountered during the implementation of the "Senayan" automation system.

1.2 Research purposes

1. Explain the stages of implementing the automation system Senayan 9: Bulian for Digital Libraries at WEB UNAS.
2. Identify the obstacles in implementing the "Senayan" automation system at WEB UNAS.

2. Research Methods

The author uses the method of library study and field observations. Literature study in addition to the author uses to delve into information and data needed as a theoretical basis reference as well as comparative research studies such as system requirements analysis with several open source products that will be used system installation and development according to the implementation of library service automation, system validation and evaluation to find weaknesses to improve the system as needed, online system implementation so that it can provide optimal benefits. The method of observation, the authors do to observe the WEB online library at several campuses nearby UNAS.

2.1 Automation System

Before elaborating further on the library repository's institutional automation system, the author feels the need to explain in advance the definition or boundary of the terms of the system and automation, as well as the institutional repository itself. In KBBI the system is defined as a set of elements that are regularly interrelated to form a totality.

2.2 Institutional Repository

An institutional repository consists of two words: institutional and repository. Institutional (a) means institution or institutional nature; while repository (n) is a repository for something. Simply put, institutional repository is a repository that is related to the institution.

An information system consists of five main resources, namely: human resources, hardware, software, based on data (and information), and networks (facilities). By, simplified into three parts, namely database, user, and automation device.

From the description above, it is clear that there are four basic components in an organization that must exist so that the organization can exist as an automated organization, namely: HR, hardware, software and database.

2.3 Senayan Library Management System (SLiMS)

SLiMS is an open source library automation system software based on WEB. This system was initiated by the Ministry of Education and Culture Library (Kemendikbud). At present SLiMS is one of the most widely used library management software institutions and institutions in Indonesia, and has even been used in various parts of the world. SLiMS features that are quite complete and actively developed are its advantages. In addition, SLiMS is very suitable for various types of libraries, both small and large scale. SLiMS is licensed by GPLv3 which allows users to obtain and use it as needed and to freely redistribute.

SLiMS features include: collection management (bibliography), membership management (membership), circulation (borrowing and repayment) collection (circulation), inventory collection (stock take), online catalog (opac), serial management / periodical issues (serial control), and reporting.

2.4 Free and Open Source Software (FOSS)

FOSS is also known as free / open source software (FLOSS) and free / open source software (F / OSS). This software was developed by an informal collaborative network of programmers. The source code is licensed for free making it easier for users to modify and enhance the software. This open source movement and FOSS not only impact ICTs but also libraries.

2.5 Senayan 9 Bulian

An early version of the Senayan program was launched in November 2007 Code name is always embedded behind this SLiMS version, for example SLiMS 3.14 Seulanga, SLiMS 3.15 Matoa, SLiMS 5 Meranti, SLiMS 7 Cendana, SLiMS 8 Acacia and up to SLiMS 9 Bulian (2019) . Bulian is the name of a type of wood with the Latin name Euxideroxylon zwagery. Bulian is a type of wood that can last for hundreds of years because it is not weathered by rain and does not heat. This wood is also known as iron wood, ironwood. Bulian wood which is famous for its durability and strength is much in demand by the public. This philosophical basis becomes the thought of naming the Bulian..



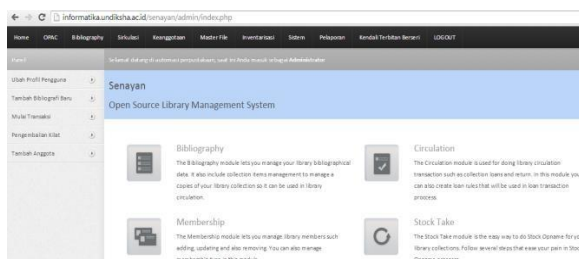


Fig 1. Senayan Library Management System (SLiMS) Admin Page Display

2.6 Online Public Access Catalog

OPAC is a database of catalog records accessed by information seekers. As an online catalog, OPAC can be accessed directly by information seekers in the library. This online catalog serves to provide bibliographic information and the location of a book in the library. To produce search accuracy you can use Boolean logic in the form of AND, OR, NOT.



Fig 2. Display page search (OPAC) National Library of the Republic of Indonesia.

3. Results and Discussion

3.1 Library Studies and Needs Analysis

The application of information technology (IT) in almost all fields of life, both in the fields of social media, economics, business, as well as libraries. Library as an information management institution is one of the fields of application of information technology that is growing rapidly. Starting from a manual library, an automated library, then developed into a digital library (cyber library).

3.2 FOSS System Installation and Development with the SLiMS application

The emergence of SLiMS was pioneered by the era of ICT (Information and Communication Technology). This era is an era that gave rise to creative and innovative ideas. SLiMS has technical specifications that are distinguished from: hardware and software that make it into a database.



Fig 3. Software And Hardware Requirements

Before installing the SLiMS application, the authors use the following hardware and software to run and install Slims:

1. PC / Laptop with Windows 10 OS
2. 4 GB RAM
3. HDD 1 TB

Software Required:

1. SLiMS application MS Windows x86 (32-bit) or MS Windows x64 (64-bit) (choose one) by adjusting the bits in the computer operating system used.
2. Winzip / Winrar / 7zip application for extracting SLiMS software.
3. Browsers can use the latest version of Google Chrome or Mozilla Firefox.

3.3 Validation and Evaluation

3.3.1 Advantages of SLiMS

1. Free.
2. Meet The Needs of Library Automation.
3. Allows It To Be Modified So That It Suits The Needs of The Library.
4. Communication Is Easy If You Experience Problems and Have A Miling List As A Communication

Container.

5. Easy To Operate.
6. Complete Tutorial Documentation.
7. The Development Prospects Are Clear So That Slims Users Can Get Immediate Benefits.
8. Multiplatform.

3.4 SLiMS 9 Bulian

Portable Senayan contains Senayan programs such as Apache (a program for servers), PHP, and MySQL. This allows users to directly apply it without the need to copy and extract it. Since it was first launched (2007) starting from SLiMS 3.14 (Seulanga), SLiMS 3.14 (Matoa), SLiMS 5 (Meranti), SLiMS 7 (Cendana), and SLiMS 8 (Acacia), now (2020) it has a version of SLiMS 9 (Bulian)). The naming code that uses the names of flora in Indonesia is intended as a learning medium for its users for plant diversity in Indonesia.

3.4.1 Evaluation

Every system and application certainly has advantages and disadvantages. The author chose to develop the SLiMS Senayan 9: Bulian application because this application has many advantages over its shortcomings.

3.4.2 System Development

Things that need to be prepared:

1. Browser.
2. Notepad ++.
3. Source Code SOMENAN Slims program9.
4. XAMPP.

3.5 Steps To Activate SLiMS

1. Open Windows Explorer

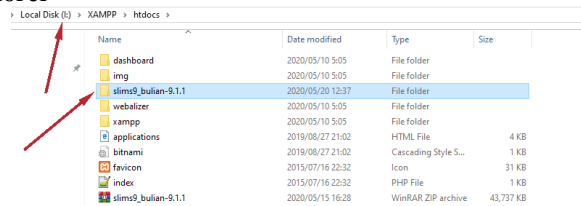


Fig 4. Windows Explorer

Open Windows Explorer. Then find your XAMPP folder (C / D / E (Depends on the Beginning of the Xampp installation. The author is on local disc I) Then copy and move the Slims9 folder to folder I: \ XAMPP \ htdocs.

2. Rename Folder Slims9 to a Name That is Easy to Remember

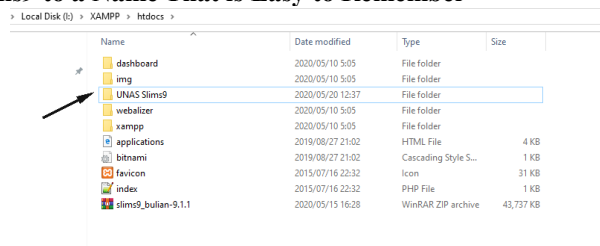


Fig 5. Rename Folder Slims9.

3. Run XAMPP and activate Apache & MySql

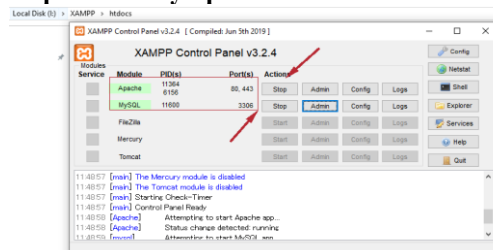


Fig 6. Run Xampp.

4. Create Database

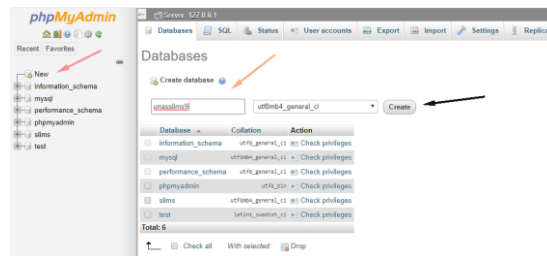


Fig 7. Create Database.

Then Create a database with the desired name, by clicking on Databases. In the Create Database section give the naming name (here I name it: unasslims9).

5. Privileges Database

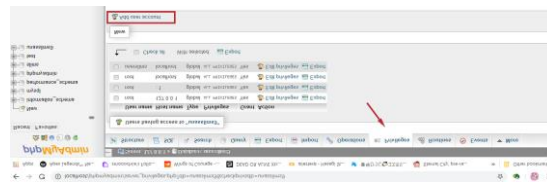


Fig 8. Cek Privileges Database.

After the database has been created successfully, check the Privileges database tab you just created (unasslims9) then> add user account.

6. Add User Account

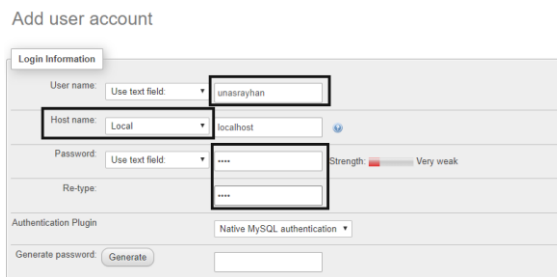


Fig 9. Add User Account.

Make a user by creating a username according to what you want (author: unasrayhan) then change the Host name to local, enter the password as desired.

7. Look the Privileges Tab

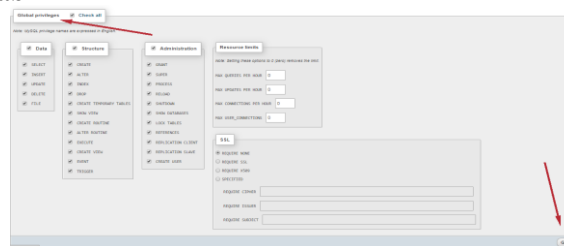


Fig 10. Privileges Tab.

Still in account creation, after giving the password scroll down to see the Privillages tab. Check "Global Privillages" then press "Go" to complete the account creation process.

8. User Is Successfully Created.

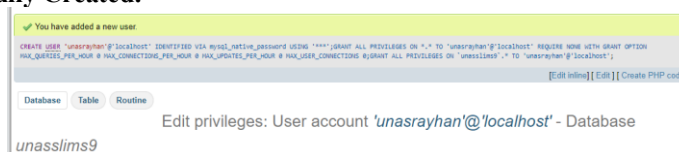


Fig 11. User Success Created.

9. Home Page SLiMS

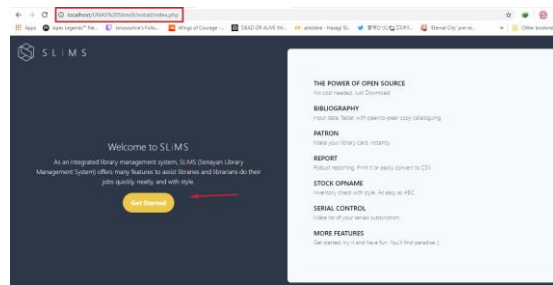


Fig 12. Home Page SLiMS.

The next step in the browser that is used, type: localhost / UNAS Slims9 as the web address (UNAS Slims9 is the name of the folder that was re-named earlier) and to continue the installation press the Enter button. Then the next display will be directed like the page below then to continue to select the Get Started button.

10. System Requirements

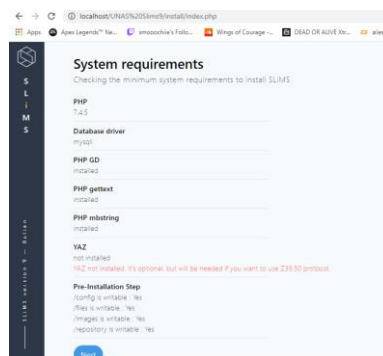


Fig 13. System Requirements.

In Figure 13 above is the system requirements in Slims then we click next.

11. Install Slims Version Open Source

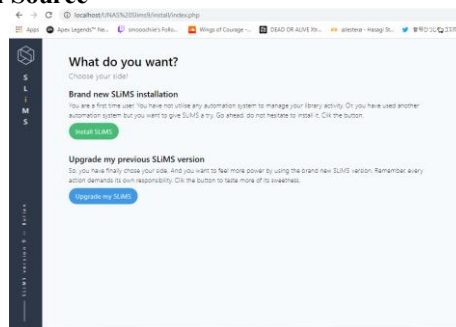


Fig 14. Install Slims Version Open Source.

Then on the monitor screen options will be displayed as follows. to continue, choose the green button for the free version installation, the blue button for the paid version. In this study the authors use the free version of open source.

12. Fill In The Database Name

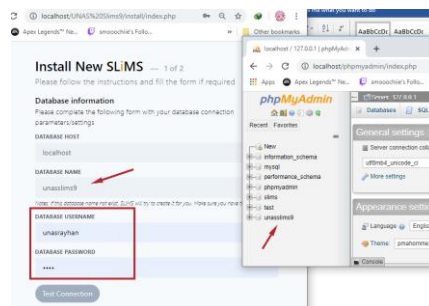


Fig 15. Fill Database Name.

After choosing which version to install, a display will appear as follows. Fill in the "Database Name"

column in accordance with the database just created (unasslims9) by filling in Unasrayhan in the Database username column, and "Unas" as the password for the Database password column.

13. Host Database view

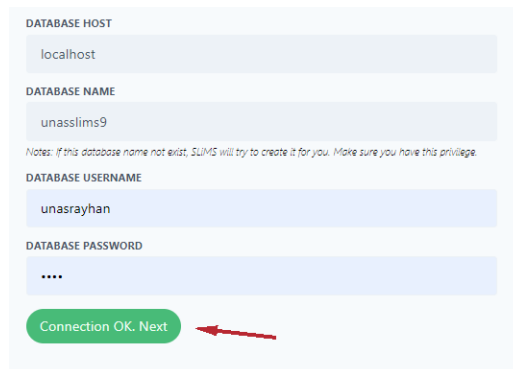


Fig 16. Host Database View.

If the data entered is correct then click "Test Connection".

14. Install New SLiMS

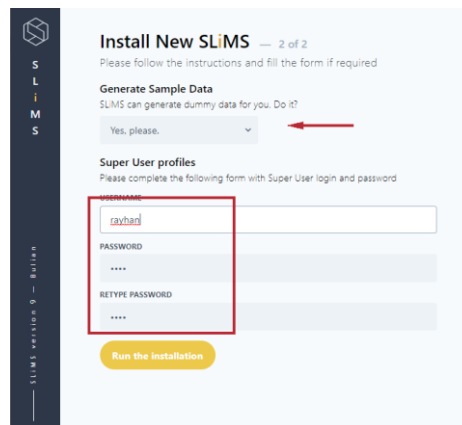


Fig 17. Install New Slims.

When the database & data entered correctly a display will appear as follows. Click and continue the installation process. Select Generate Sample Data to create a dummy data book. then click "Run the installation" to complete the installation.

15. Home Page Senayan 9

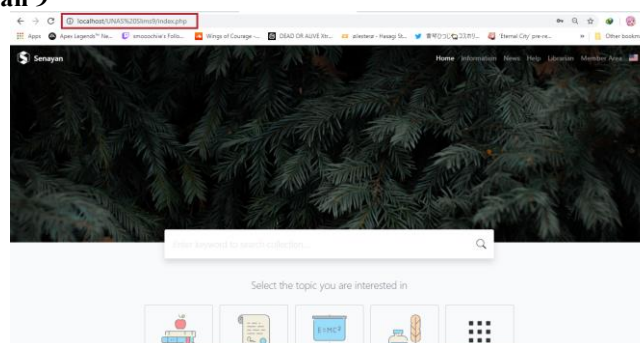


Fig 18. Home Page Senayan 9 .

After the installation is complete, the browser will immediately display the senayan9 home page.

4. Conclusion

Based on the literature study conducted by the author, it can be concluded that technically implementing SLiMS as a library automation system software does not require much because this application can be downloaded for free. The main obstacle faced is human resources, in this case librarians in UNAS institutions, which until now have not implemented FOSS-based applications such as SLiMS. In fact, UNAS which has a Faculty of Information Engineering should be able to provide input so that UNAS librarians can implement a library automation system independently. This paradigm shift needs to be done so that UNAS academics, especially students and lecturers, have the convenience and comfort of conducting library research for their research.

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