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The Implementation of a SLiMS-Based Library Automation System Towards the Improvement of Library Quality at FMIPA UNM Makassar

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Abstract : This research aims to find out 1) The Implementation of the SLiMS automation management system in the Makassar State University FMIPA library, 2) Quality improvement with the SLiMS automation system in the Makassar State University FMIPA library and 3) advantages and disadvantages with the SLIMS automation system in the Makassar State University FMIPA library. This research uses descriptive qualitative research while the research approach used is field research. The data sources are from the head of the library and library staff as well as visitors to the FMIPA UNM Library. The data collection methods used in this research are observation, interviews and documentation. The research instrument in this research is the researcher himself. Then the data processing and analysis techniques are carried out in three stages, namely data reduction, data presentation, and drawing conclusions. The results of this research indicate that the implementation of the automation management system in the Makassar State University FMIPA Library uses the Open Source Senayan Library Management System (SLiMS) automation system. The SLiMS automation system is supported by hardware and software so that the system can run. The hardware used is generally the same, a collection of computers connected to a network, the difference is the software used in the library automation system. The Library quality by using the SLiMS automation system is way better. Users find it easier to use the system, its services, and to obtain information on the books they are seeking. In addition, the automation system of the Open Source Senayan Library Management System (SLIMS) has the benefit of facilitating readers' search for information about wanted books as well as librarians' and staff's ability to finish tasks in the library. The downside is that users are unable to access information remotely because the program is still offline.
Keywords: Implementation; Automation System; Library; SLiMS-Based

INTRODUCTION

Libraries basically aim to provide the information needed by their users, both members and non-members. Regardless of the large or small number of collections they have, libraries are required to provide maximum information services for information seekers. Libraries are considered information centers, but because they provide various sources of information for users, they require the application of ICT or Information and Communication Technology. [1] As explained in the verses of the Qur'an, people who have knowledge will receive protection from Allah and gifts for their servants. Without knowledge, we will be far behind other people, as Allah SWT says. QS. Al-Nisa/4:113

وَلَوْلَا فَضْلُ اللّٰهِ عَلَيْكَ وَرَحْمَتُهٗ لَهَمَّتْ طَّاۤىِٕفَةٌ مِّنْهُمْ اَنْ يُّضِلُّوْكَ ۗوَمَا يُضِلُّوْنَ اِلَّآ اَنْفُسَهُمْ وَمَا يَضُرُّوْنَكَ مِنْ شَيْءٍ ۗوَاَنْزَلَ اللّٰهُ عَلَيْكَ الْكِتٰبَ وَالْحِكْمَةَ وَعَلَّمَكَ مَا لَمْ تَكُنْ تَعْلَمُ ۗوَكَانَ فَضْلُ اللّٰهِ عَلَيْكَ عَظِيْمًا

Translation:

"Had it not been for Allah's grace and mercy, a group of them would have sought to deceive you ˹O Prophet˺. Yet they would deceive none but themselves, nor can they harm you in the least. Allah has revealed to you the Book and wisdom and taught you what you never knew. Great ˹indeed˺ is Allah's favour upon you!" [2]

Libraries keep up with several technology advancements to enhance their services effectively in the modern globalized world. Libraries work hard to create services that enable access to information without regard to location or time because users demand information fast and accurately. In her journal, Nur Riani made the statement that in order for a library, for example, to stay current with advancements in the field, it is advisable to first ascertain what information needs are before beginning any search.[3]

Libraries with conventional systems are considered less effective. For example, a conventional library system with quite a large collection will experience difficulties in controlling and managing it from time to time because the number of collections will definitely continue to increase. This makes it take a long time for consumers to locate the information they're looking for. Agus et al.'s journal article states that systems that continue to rely on traditional procedures are vulnerable to errors in the distribution of book loans due to improperly documented data. This should be resolved with a website-based library information system, as these provide more

[1]Sulistyo Basuki. *Pengantar Ilmu Perpustakaan* (Jakarta: Gramedia Pustaka Utama, 1999), p. 1.

[2]Ministry of Religion of the Republic of Indonesia, *Al-Qur'an and its Translation* (Jakarta: Directorate General of Islamic Religion, Islamic Community Development, 2012), p. 96.

[3]Nur Riani, Information Seeking Behavior Model To Meet Information Needs (Literature Study), *Journal Publish* 1, no.2 (2017): p. 15.

efficient data administration for the library, allowing for better documentation of book loan circulation and time optimization.[4]

The implementation of a library automation system certainly cannot be separated from the role of librarians and library staff in operating both hardware *and* software *in* accordance with the Law. In PERMENPAN 9 of 2014, what is meant by the Functional Position of Librarian is a position that has the scope, duties, responsibility, authority, and rights to carry out librarian activities.

The previous library system, which involved numerous intricate details for managing the library's membership, collection circulation, and administration, has been retired. Information technology can be used to change the library management practices in order to accomplish all of this. An information system's existence serves as a tool to help people obtain information from libraries. Librarians can manage and provide library services more easily with the help of application product system information. According to Inawati's magazine, having an automated system in libraries has a beneficial impact on user satisfaction because it makes administering the system easier.[5]

Services that include users in this regard needs to be supported by a computerized automation system that is ready whenever needed for easy access. Blasius Sudarsono said that the application of IT in libraries can be used in various forms, namely as a library management information system where activities or work that can be integrated with the library information system include procurement, inventory, cataloguing, circulation of library materials, as well as managing member data and statistics.[6]

There are many different types of library information systems available today, and each system has pros and cons of its own. However, since the purpose of library information systems is to boost efficiency at work, libraries must always strive to update to newer versions and exercise flexibility when using them. Abdul Kadir claims that information systems used in conjunction with technology can perform high-volume, high-speed numerical computations, offer inexpensive, accurate, and quick communication within or between organizations, and store vast amounts of data in a compact, easily accessible area. Information systems implementation is a component of the modifications made to library information service operations.[7]

According to Zulhalim et al., a university library ought to have an improved web-based computerized database program. When students want to borrow books, librarians can enter data using a computer that has used an application program, which eliminates the need for librarians to manually take notes. This allows

[4]Agus Rahmat Kasmirin, d kk, " Perancangan Sistem Informasi Perpustakaan Berbasis Web (Studi Kasus Sman 1 Penengahan)", *Computing Journal* 4, No.1 (2016) , p. 104.

[5]Inawati, The Effect of Implementing a Library Automation System Regarding User Satisfaction, *Journal of Library and Information Studies* 1, No.1 (2019): p. 44.

[6]Blasius Sudarsono, *Pustakawan Cinta dan Teknologi* (Jakarta: Science Scholars Association Indonesian Library and Information, 2009), p. 37.

[7]Abdul Kadir. *Introduction to Information Systems* (Yogyakarta: Andi Offset Adara Anwar 2013), p. 10.

students who are within the campus to search for books using the computers that have been provided.[8]

The Makassar State University Library places its function as an institution providing information sources for Tri Dharma Higher Education activities like other university libraries. In organizing collections or library materials, as well as other elements, libraries always implement an appropriate management system. According to Sulistyo Basuki, higher education libraries are libraries located in universities, their subordinate bodies, or institutions affiliated with higher education institutions, with the main aim of helping higher education institutions achieve their goals, namely the Tri Dharma of Higher Education (education, research and community service).[9]

The automation systems for university libraries that are now in use are *winisis, slims, dynix, simpus, cyprus, openbiblio, koha, athenium, senayan, openisis,* and so forth. Each of these systems has pros and cons of its own. Regarding the information system itself, in the meantime, some can get it by buying it from software developers, creating it themselves, or even downloading it from the internet. All of these methods are free and legal, have a track record of reliability, and include online chat support for users who need help utilizing the system. This information system is known as an *opensource* information system in libraries.

According to Nelaakandan et al., performance can be significantly impacted by the presence of a library automation system. This study demonstrates how an automation system with Open Source Software may be put in place to improve book circulation and offer a range of search options for determining which books are available in the library. The study's findings demonstrate that it is simpler for patrons to find the required literature in a library when there is a software automation system in place that is integrated with all the required models.[10]

According to Prakoso et al.'s journal article, automation in libraries can help visitors locate the books they're looking for using the catalogs that are currently in place. When using online catalogs (computers) to search for information, consumers can profit greatly from the automated system. This implies that the quality of services offered by a library can be raised by installing an automation system there. Guests can experience how convenient it is to use the books that are provided.[11]

Senayan Library Management System (SLiM S) is a tool open source library management system software licensed under GPL v3. This application was first developed and used by the Ministry of National Education Library. Over time, this

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[8]Zulhalim, et al., "Implementasi Aplikasi Sistem Otomasi Perpustakaan Terintegrasi Menggunakan Inlislite Versi 3 Pada Perpustakaan Stmik Jayakarta", *Journal of Information Systems, Applied, Management, Accounting and Research* 3, No. 4 (2019), p. 3.

[9]Sulistyo Basuki, *Periodisasi Perpustakaan Indonesia* (Jakarta: Gramedia Pustaka Utama 1999), p. 26.

[10]Neelakandan, et al., *Implementation of Automated Library Management System in the School of Chemistry Bharathidasan University using Koha Open Source Software . International Journal of Applied Engineering Research, Dindigul* Vol. 1, no. 1 (2010), p. 149.

[11]Prakoso, et al., Pengaruh Penerapan Otomasi Perpustakaan Terhadap Kualitas Layanan dan Kinerja Di Perpustakaan Umum, *Journal of Business Administration,* Vol. 50. No. 6. (2017), p. 145.

application was then developed by the community *SLiMS* users and activists. *The SLiMS* application is built with using PHP, MySQL database and git version controller. The features contained in this application are quite complete and can help librarians in managing their libraries, such as printed libraries, printed *Barcodes*, labels and cards book catalogs, reports and statistics, digital References, multimedia References, membership, circulation, main *interface* , and supporting *interface* . We can download the slims application at www.slims.web.id for free.

Additionally, Petrus noted in his journal that SLiMS fell into the "very good" category. Stated differently, those in charge of libraries in higher education find that having the dependable Senayan Library Management System (SLiMS) library software (application) is very helpful in managing libraries, from data input to searching to borrowing and returning library collection transactions. In terms of functionality, reliability, usability, efficiency, maintainability, and portability, the SLiMS application is deemed to be excellent. As a result, the SLiMS application is excellent for managing libraries.[12]

Based on the preliminary study's findings, the researcher selected automation points that provide a detailed explanation of library automation from the outset, including a thorough understanding of automation, the benefits and drawbacks of automated systems, the modules that make up the system and their individual functions, In order to go on to the next phase, the library is ready to begin system automation activities. This includes everything from implementation planning to automated system evaluation.

THEORETICAL REVIEW

Implementation Library Automation System

Nurdin Usman, in his book entitled Context of Curriculum-Based Implementation, expressed his opinion that implementation boils down to activities, actions, actions, or the existence of mechanisms in a system. Implementation is not just an activity, but an activity that is planned and to achieve activity goals. In the definition of implementation stated above, it can be said that implementation is not just an activity, but an activity that is planned and carried out seriously based on certain norm references to achieve the activity's objectives. Therefore implementation does not stand alone but is influenced by subsequent objects.[13]

According to Guntur Setiawan, implementation is an expansion of activities that mutually adjust the process of interaction between goals and actions to achieve them and requires a network of implementers, an effective bureaucracy.[14] There is also AG Subarsono's perception in his book Political Policy Analysis that

[12]Petrus Dwi Ananto, "ISO 9126 Pamungkas, Untuk Pengujian Kualitas Aplikasi Perpustakaan Senayan Library Management System (SLiMS)", *Jurnal RESTI (Rekayasa Sistem Dan Teknologi Informasi) Journal 2,* No. 2 (2018), p. 465.

[13]Nurdin Usman, *Konteks Implementasi Berbasis Kurikulum* (Jakarta: Raja Grafindo Persada, 2002), p.70.

[14]Guntur Setiawan, *Implementasi dalam Birokrasi Pembangunan* (Bandung: Teen Rosdakarya Offset 2004), p. 39.

implementation involves an activity related to completing a job, through the use of suggestions to achieve the desired goals.[15] Meanwhile, according to Hanifah Harsono, implementation is: mutually compatible activities.[16]

According to Sulistyo Basuki, library automation is the process or result of creating self-acting or self-controlled machines without human intervention in the process as a form of applying information technology for the benefit of libraries from procurement to information services for readers.[17]

According to Putu Laxman Pendit, a library automation system is a set of computer applications for activities in a library which is characterized by the use of large databases, dominant textual listings, and main facilities for storing, finding and presenting information. Librarians must be able to utilize existing systems to search for collections that suit users' interests and needs, as well as searching for the newest collections. Librarians must also be able to serve requests for fast access to information from inside and outside the library.[18]

Drawing from the perspectives of those mentioned experts, it can be inferred that the library automation system is a management tool designed to make access easier for both library managers and patrons. The procurement, processing, retrieval, circulation (loans, returns, and loan extensions), membership, membership access rights settings, late return fine settings, booking system, and library activity reporting system with multiple selected parameters are all integrated into a good automation system for libraries.

Library Automation System Tools

Implementing an automation system in a library is carried out in several elements and stages, starting from the database, *users* , hardware preparation, software installation and testing, system maintenance and security, training, evaluation of system use and *database maintenance* .[19]

Database

The database of each library will definitely not be separated from the process collection management.[20] The purpose of this process is to obtain data from all collections owned and then organizing them using the principles of library science.

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[15]AG. Subarsono, *Analisis Kebijakan Politik* (Yogyakarta: Student Library, 2005), p. 58.

[16]Hanifah Harsono, *Implementasi Kebijakan dan Politik* (Jakarta: Grafindo Jaya, 2002), p. 67.

[17]Sulistyo Basuki , *Periodesasi Perpustakaan Indonesia,* p. 96.

[18]Putu Laxman Pendit , *Perpustakaan Digital dari A sampai Z* (Jakarta: Citra Karyakarsa Mandiri 2008), p. 222.

[19]Mulyadi, *Pengelolaan Otomasi Perpustakaan: Berbasis Senayan Library Management System (SLiMS)* , p. 56.

[20]Mulyadi, *Pengelolaan Otomasi Perpustakaan: Berbasis Senayan Library Management System (SLiMS)* , p. 41 .

User

The user of an automation system cannot be separated from the user as a service recipient and one or several operators as system managers. There are several library automation systems Operator level depends on their responsibilities.

Hardware Preparation

Kadir stated that hardware is in the form of devices that are physically visible. Included in this group are *monitors, keyboard* , *mouse,* and *printer*.[21]

Software Installation and Trial

Rosa and Saladin stated "Software (*software*) is a computer program associated with documentation software such as requirements documentation, design models, and how-tos usage (user manual).[22]

Maintenance and Security Systems

The more systems you connect to a broad-based data communications network (the internet), the greater the risk faced in terms of data security.[23]

Senayan Library Management System (SLIMS)

Senayan Library Management System (SLiMS) is open-source library management system software under the GPL v3 license. This web application, developed by a team from the Information and Public Relations Center of the Ministry of National Education of the Republic of Indonesia, was built using the PHP programming language and MySQL database. Online Public Access Catalog (OPAC) is one of the features in SLiMS. With the existence of an open source licensed library information system like Senayan, it is hoped that it will help libraries in managing library data, automating and improving public services.
SLiMS is a web-based application with cross-platform considerations. Fully developed using open source software, namely Scripting Language and MySQL Database server (www.mysql.com). [24] To increase interactivity so that it can appear like a desktop application, AJAX (Asynchronous JavaScript And XML) technology is also used. Senayan is lensed under GPLv3 which guarantees freedom to obtain, modify and redistribute (right to use, study, copy, modify and redistribute computer programs).

The Quality Improvement of Automated System Libraries

The ideal library is a library that has implemented information and communication technology. Information and communication technology is a means of improving service and operational quality. The development of the application of information

[21]Abdul Kadir , *Pengenalan Sistem Informasi* (Cet.35; Yogyakarta: Andi Offset 2011): p. 23.

[22]Rosa Ariani Sukamto dan Shalahuddin, M, *Rekayasa Perangkat Lunak Terstruktur Dan Berorientasi Objek*, (Bandung: Informatika Bandung 2018), p. 43.

[23]Lantip Diat Prasojo, "Pengelolaan Perpustakaan Digital di Upt Perpustakaan Uny", *Journal of Educational Management Accountability* 4, No. 2 (2016), p. 250.

[24]Mulyadi, *Pengelolaan Otomasi Perpustakaan: Berbasis Senayan Library Management System (SLiMS*), p. 65.

and communication (ICT) can be measured by its implementation/use as a management information system (SIM) for libraries and digital libraries. With Information Technology, the preservation and dissemination of scientific and cultural information can be conveyed directly to the general public. The library management information system is an integration between the fields of administration, procurement, inventory, cataloging, processing, circulation, statistics, management of library members, and others. This system is often known as a library automation system.

Library automation systems can have a significant impact on performance. The implementation of an automation system using Open Source software which aims for more effective circulation and provides various search facilities to find out the availability of books in the library, shows that the existence of a slims automation system that is integrated with all the necessary models makes it easier for visitors to search for the literature they need in the library. library. Prakoso et al in their journal stated that automation in libraries can provide assistance to visitors in finding the books they want to search for according to existing catalogues. The automation system is able to provide considerable benefits for users to search for information through online catalogs (computers). This means that implementing an automation system in a library can improve the quality of services provided by the library. The ease with which visitors can make use of the available books.[25]

Finding out what information users need and updating the automation system are two things you must always try to do as a librarian or library staff member in order to improve the quality of the library—that is, the quality of the information, the quality of the applications, and the quality of the services provided by the library. Meet consumer expectations, offering prompt and accurate assistance. possesses sufficient infrastructure and facilities in addition to skilled and knowledgeable staff. can offer good assistance to library patrons in terms of book borrowing and return as well as literary search assistance to facilitate the information retrieval system. All library users benefit from the ease that an automation system offers.

RESEARCH METHOD

The research methodology is qualitative, also known as naturalistic qualitative, which stresses natural descriptions and demonstrates how the study is implemented organically or as it is, without manipulating the circumstances.[26] This research uses *field research* while according to Albi Anggito and Johan Setiawan the field research method is research where the data is obtained directly through observation and data sources in the field and not from library sources.[27] Hopefully the information gathered from the participants in this study will aid in

[25]Prakoso et al ., " Pengaruh Penerapan Otomasi Perpustakaan Terhadap Kualitas Layanan dan Kinerja Di Perpustakaan Umum". *Journal of Business Administration (JAB)* Vol.50, no. 6, (2017).

[26]Suharsimi Ari Kunto, *Prosedur Penelitian Suatu Pendekatan Praktik (* Jakarta: PT. Rineka Cipta, 2010), *p .* 21.

[27]Albi Anggito & Johan Setiawan, *Metodologi Penelitian Kualitatif*, (Sukabumi: Trace, 2018) , p.8 .

characterizing the state of the SLiMS automation system at Makassar State University's FMIPA Library.

FINDINGS AND DISCUSSION

The Implementation of the Open Source Automation System *Senayan Library Management System (SLiMS)*

The automation system in the *SLiMS* application has very complete menus, where the menus most frequently used in the *SLiMS* application are circulation, bibliography and membership, where the report menu is used when you want to give a report to superiors or if needed, while the The things that are most rarely used in *SLiMS* applications are controlled lists, inventory and our system never uses them. As for the implementation of the library automation system in the FMIPA UNM Library. The implementation of the Senayan Library Management System (*SliMS*) OpenSource Automation System is as follows:

Hardware Preparation

The initial step taken by the library at FMIPA UNM in automating the library according to the initial interview was to prepare the necessary hardware such as computers, printers, barcode scans, etc. for the automation system needs at the FMIPA UNM library which had been prepared previously.

Software Installation and Trial

SLiMS open source software, the first thing you must pay attention to is the internet network on the computer. The network in the library at FMIPA UNM is still limited to one location or what is usually called *a LAN (Local Area Network).* The tools used in this network are *modems or wireless wifi.*

The Implementation of FMIPA UNM Library Automation System Management

Management and Planning of Automation Systems in UNM Libraries

After receiving approval from the dean, the faculty prepared the management and planning of the automation system at the FMIPA UNM Library, including the infrastructure and facilities needed to support the automation system. This included setting up two computers, nine bookshelves, and other necessary items. The system's operation resulted in an increase in facilities and infrastructure, including computers from the original two to four, shelves that are larger than the library's shelves in 2020 due to procurement and collection growth. Other facilities and infrastructure items include barcode scanning, speakers, printing, card cutting tools, laminating, air conditioning, and other requirements that can support automation systems-based library management.

In order to improve the quality of the FMIPA UNM Library, this research will examine how the Open Source Senayan Library Management System (SLiMS) automation management system can be applied. The automation system will be implemented in the library beginning with planning and ending with the facilities and infrastructure, software, equipment, and human resources ready. tough. The role that librarians and library workers play in operating both hardware and software is undoubtedly inextricably linked to the deployment of library automation

system management. The FMIPA UNM library's automation system and management system are:

Planning related to the readiness of internal and external environmental factors regarding library management policies based on automation systems in the FMIPA UNM library.

Planning related to the readiness of internal and external environmental factors regarding library management policies based on automation *systems* is where the dean is supervised by the head of the library and the library manager. This structure is the structure of university libraries in general.

FMIPA Makassar State University Parangtambung is on Jalan Daeng Tata Makassar. There are seven study programs offered by the FMIPA UNM campus. They are: mathematics, physics, chemistry, biology, science, geography, and statistics. The location of this library is on the 2nd floor in the middle of all existing buildings and reaches all study programs, making it easier for students or lecturers to come to this library to look for references, whether related to research or teaching materials. This library is 10 by 10 meters. In addition to other administrative services, the UNM FMIPA Library offers circulation services, which allow lecturers or students to check out, return, or extend library materials. The literature search service uses the OPAC (Online Public Access Catalog) to find information in the library that is typically used to support scientific writing or research projects. It also provides reading materials based on the needs of the library users.

External support for the implementation of the automation system in the FMIPA UNM Library includes the second point that can influence the operation of the automation system in this library, namely support from users, lecturers, staff who need information either for research, doing assignments or for teaching materials. External environmental support for the implementation of the library automation system using the open source SLiMS based program which provides facilities such as information retrieval (OPAC), circulation, visitor lists, processing and reporting. With an automation system, you can provide services to users more quickly and effectively. The UNM FMIPA Library provides internet access for students, female students and lecturers who visit the library to make it easier to search for the sites they need.

Planning related to hardware and determining software in library management based on automation systems in the FMIPA UNM library .

The three components that make up the library automation system are typically cataloging, OPAC, and circulation. Both hardware and software are required for the system to function in the library. To initiate the automation system process at the library, just a computer is required as hardware. In addition to being essential for the first stages of an automated system, computers also require a variety of support instruments, such as printers, barcode scanners, paper cutters, laminating machines, and so forth.

Planning related to book collection management in library management based on *the SLiMS automation system* in the FMIPA UNM library .

When the FMIPA UNM Library first implemented an automation system, the head of the library would frequently purchase the newest books or place direct orders with book publishers. However, as of 2019, the library has not received any funding, according to Mrs. Sumrah, the librarian at the FMIPA UNM Library. Thus, donations from instructors within the framework of FMIPA UNM as well as contributions from students for each thesis submission go toward the book collection.

Objectives of the Automation System in the UNM FMIPA Makassar Library

Organizing

A university library is one of the supporting facilities to support the activities of the academic community, where if the library is based on an automation system, the service system will be more effective and efficient. The implementation of automation systems in libraries aims to improve the quality of services, the image of the library and the librarians themselves. Librarians no longer work manually which can reduce errors because library activities are routine.

The ability of human resources or management staff at the FMIPA UNM Library in implementing the automation system, of course the Librarian has been able to operate the SLiMS automation system from the start when it was placed in this Library, which was initially only manual and is now based on an automation system. Staff take part in online and offline training or seminars so they can use the SLiMS automation system, which is available everywhere and the system is easy to use.

Organizing related to human resources, librarian staff capabilities

The use of human resources must be adjusted to the needs in implementing the automation *system* in the library. For the library to function properly, all of its human resources must be computer literate. The human resources team tasked with implementing automation system management in the FMIPA UNM library should have experience working in libraries so they can better understand the system without needing to be trained from scratch until they can operate the SLiMS automation system. This is because the library's mission extends beyond serving patrons; staff members also need to be able to operate the automation system.

Quality of the SLiMS Automation System in the FMIPA UNM Makassar Library

The ability of the automation system to display information or data in the Makassar State University FMIPA Library. The SLiMS automation system in the FMIPA UNM Library is as follows:

Ability and Accuracy

Using an automation system now is very different, especially in terms of the quality of the system because the automation system in the FMIPA UNM library is very helpful for both librarian and library users. This automation system is very reliable, especially in terms of the quality of the system, which is very fast in displaying the data or information needed.

Utilization of capabilities and accuracy in the *SLiMS automation system* in the FMIPA UNM Library. The system used in the FMIPA UNM Library is *SLiMS* where this system is very easy to use and easy to obtain. The processing and retrieval of information, as well as the convenience and speed of book borrowing and return,

are all made possible by this system for the librarian. This system is very easy to use and has the capability to display necessary information or data, such as when looking for a book. Simply enter the title or author of the book in the OPAC and all books related to that title will appear. You can then see in detail how many pages, how big they are, and whether the book is in print or on display.

Advantages and Convenience

Features that support the *SLiMS* automation *system* at the FMIPA UNM Library. in the activities of processing transaction data for members, borrowing collections, extending and returning library material collections so that circulation activities run effectively with the help of computerization. Apart from the advantages, there is also the ease of using the automation system in the FMIPA UNM Library. As for the results of the interview, according to the informant Mrs. Sumrah as a Librarian at the FMIPA UNM Library that "This system is very easy to understand and apply in the Library and there are many modules on how to use this SLiMS application on the internet and I and the Library manager have attended training related to this application which was held in the Makassar State University environment.

Utilization of the advantages and ease of using features in the SLiMS automation system in the FMIPA UNM Library. The SLiMS automation system in the FMIPA UNM library really meets the needs of library users and managers, and the features in this automation system application are very complete, where there is a bibliography for inputting books, OPAC for searching or information retrieval system, there is a visitor list, circulation and membership are the features or menus most frequently used by librarians, managers and users, of course in the OPAC feature in the SLiMS automation system.

From the explanation above regarding system quality, it can be concluded that:

Data recency, namely the ability of the slims automation system to display data or information that can always be updated. The FMIPA UNM library has updated its slims automation system to the latest version, namely slims 9 bulian, so it is better than before.

The response time, namely the process of library work carried out by librarians, is quite fast. Slims automation system has a fast response time. The slims automation system used in the FMIPA UNM Library makes it easier for librarians to do their work because the slims automation system is fast response.

In the latest Slims automation system which has been updated 9 months ago, the time speed is very good, where the changeover time in the Slims automation system used by the FMIPA UNM library has good speed when the automation system application makes feature changes, meaning it is not slow in responding when you want to make a feature change. .

System capabilities that this system is reliable and capable of being used in library management. This slims automation system is believed to be able to help in managing libraries, for example at the FMIPA UNM library, they use digital tools based on slims to manage the library which is useful for librarians and users.

Ease of user means that the slims automation system used in the FMIPA Library makes it very easy for users, including library users or library visitors, because the system is very easy for users to understand.

Quality of Automation System Service

Service quality is an activity or concept that is oriented towards meeting the needs of users, where this quality assessment cannot be separated from library users, because a service is considered to be of quality if it can meet the needs of its users. Libraries must provide information precisely, quickly and accurately. A library is said to be of quality if it has relevant collections, qualified librarians, fast and accurate service and adequate facilities and infrastructure. The quality that an automation system can provide to system users, it can be seen that:

The slims automation system at the FMIPA UNM Library is very reliable because it can help complete the work of users and librarians. Apart from that, the slims automation system used at FMIPA UNM can be relied on to complete work and management tasks in the library.

The capture capacity of the slims automation system used by the FMIPA UNM Makassar library is very good so that librarians who use the automation *system* have high capture capacity to immediately complete work by utilizing the services of the automation system in the FMIPA Library.

The automation system in the FMIPA UNM Library is supported by hardware so that the system can run smoothly, making the work of librarians and users easier.

On average, library visitors at FMIPA UNM admit that the features in the automation system are complete according to the users' expectations and desires.

The equipment in the Slims automation system used by the FMIPA UNM library is very good, where the features in the automation system can support processes and services to readers who come to visit the FMIPA UNM Makassar Library.

System Slims automation has complete menus that can be used We Look all with clear number the statistics are in the menu as in the total collection there are 4,656, total copies there are 6,646, loaned 108, and in part available there are 6,538.

Visitors or students do not have to wait long to find the book they want because visitors only need approximately 0.025 seconds to search for the book they want. When searching for books, students only need to type in the keywords and all the books they are looking for will appear. As in the picture above, there are 46 books that match the search results with a time bracket of only 0.025 seconds.

It's easy for visitors or students because student visitors only scan their cards which is relatively short, namely around 0.20 seconds, so students or visitors don't have to wait long and queue. Besides that displacement from the circulation menu to the membership menu calculated with use *stopwatch* . With thereby from count on *the stopwatch* the is known only takes 00.01 seconds just For move from the circulation menu to the membership menu .

The slims automation system also makes it easier for visitors or students to borrow books, because the process of borrowing books is very easy, in about 7 seconds you

can borrow them. So this can make it easier for visitors to borrow books without queuing or waiting long.

Information Quality

With the slims automation system, it can make it easier for library managers to process books in the library until they can be used and borrowed by users. The slims automation system used by the UNM Makassar Library makes it easier for librarians to do their work.

The quality of information in an automation system is very important both for library users and in completing tasks so that searching for information for users is very easy and fast.

Using the slims automation system in the FMIPA UNM Library is very accurate, and also timely, because the slims automation system used in the FMIPA UNM Library is able to display information accurately and on time according to the needs of system users.

The slims automation system at the FMIPA UNM Library is quite complete in displaying information. Where the information displayed by the slims automation system in the FMIPA UNM Library is complete according to the needs of system users.

The convenience of the slims system in the FMIPA UNM Library really helps users in getting the information they need. As in book search it is very easy to use and provides precise information. This slims automation system also provides information that is easy for users to understand and understand.

The slims automation system used at the FMIPA UNM Makassar Library is very relevant to the information needed by visitors, because the slims automation system at the FMIPA UNM Makassar Library produces information that is suitable and appropriate according to the request of the user of the slims automation system, such as searching for research books, the book will appear. related research.

The quality of information in displaying complete data on the book you are looking for starts from the book's availability, publisher, physical description of the book, ISBN, and also its classification. The information presented is structured and easy to access. Library users can quickly search and find the books, journals and other resources they need. The powerful search feature allows users to search by title, author, subject, or other keywords, making it easier for them to find relevant material.

Based on several points stated above, it is known that *the SLiMS (Senayan Library Management System)* automation system for the FMIPA UNM Library is a library platform designed to help manage and access information at the FMIPA UNM Library. One of the advantages of this system is the quality of the information provided.

Disadvantages and Advantages of the SLIMS Automation System in the FMIPA UNM Library

Disadvantages of Automation Systems

The disadvantage of the SLiMS system is that the system is still local area and cannot yet be online, so if users want to look for books in the FMIPA UNM library, they don't know whether the books are in this library or not, unless they go to the library directly, apart from that, a web browser is needed to access the SLiMS. This software recommends Mozilla Firefox so that all SLiMS displays appear perfectly, and fortunately the FMIPA UNM library has used Mozilla Firefox to display this SLiMS application so that all the menus in this application are complete.

Advantages of Automation Systems

The advantage of the SLiMS automation system in the FMIPA UNM library is that this application is easy to obtain and can be obtained for free, able to fulfill all needs in the library automation system where there are circulation services, cataloging, membership, library visitor lists and barcode printing, both for barcodes. membership cards or print barcodes on books. The SLiMS automation system application is very easy to use and how to use it is everywhere. At the FMIPA UNM Library the application is complete where there are computers for visitor lists, bibliography, OPAC and circulation and makes it very easy for library managers because the system is easy to use and very effective in application in any library. And library users can easily search for the library materials they want, both for research and teaching materials.

CONCLUSIONS AND IMPLICATIONS

Conclusion

Implementation of automation system management in the FMIPA UNM library starts from planning, readiness of facilities and infrastructure, human resources, hardware and software. The implementation of automation system management runs with support from students and support from superiors. The library collection is obtained from donations from lecturers and donations from students so that the automation system can run and is still developing today.

The quality of the automation system in the FMIPA UNM Library has the quality of displaying data information quickly and accurately and providing convenience in information retrieval. The quality of service can be felt by having a number of hardware devices so that the system can run and make it easier for managers to carry out tasks in the library so that the quality of the system information is not slow in responding.

The advantage of the automation system is that it makes it easier for readers to retrieve information and for librarians and their staff. Meanwhile, the disadvantages are that the application is still offline, so users have to go to the library directly to find out whether the book they are looking for is available or borrowed, and there is a lack of computers so students have to queue to look for books.

Research Implications

There is a need for additional computers so that students do not have to queue to search for books at OPAC and to provide more spacious space so that users have more freedom to carry out their work at the FMIPA UNM Library.

There is a need for library staff with a library background to implement the automation system more effectively and efficiently and to attend training or seminars related to automation systems more often so that the library continues to develop and be updated.

The automation system application should be online so that students do not need to go to the library to read books or look for the books they need.

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