# Optimizing of Library Management Based 5S Method (Case Study: Buluh Cina Village, Kampar District, Riau)

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## ARTICLE INFO

## ABSTRACT

*This community service activity aims to develop and improve library management using the 5S method and computerised system of books inventory to increase community literacy in Buluh Cina Village, Kampar Regency, Riau Province. The optimal and efficient library, such as book collections, library users, facilities, infrastructure, and library management, can be appropriately managed based on the 5S method and book inventory-based computerisation. The 5S method (Seiri, Seiton, Seito, Seiketsu and Shitsuke) was adopted to organise library rooms by arranging bookshelves, catalogue cabinets, reading tables, and other equipment. By applying the 5S method, a more optimal inventory management system and book borrowing were obtained easily. The existence of this system makes it easier for officers to put back the books that have been read in their original place. Replacing books can be done quickly; the librarian only needs to input the book code, book data and shelf locations for storage displayed. The book was inventory-based computerised, which made it more accessible to detect the number of collections, the presence of books on storage shelves, a monitoring system for book borrowers, and additional collections. Therefore, the management and services of the library are optimal and lead to the visitors' satisfaction.*

## INTRODUCTION

Library procurement needs to be supported by its management. Asnawi (2015) mentions several obstacles that may be faced, including the existence of libraries that are not yet widely known, limited library conditions, library management that is not optimal, access to information that is relatively difficult, and uneffective management. These things can be avoided with good library management so that it can provide literacy collections that can equip the public with knowledge, increase skills knowledge, entertain, and reach all groups.

In a library, various reference collections can be grouped (Hartono, 2016), such as dictionaries. An encyclopedia is a collection of references containing a summary description of a particular branch of knowledge or field of knowledge; a Bibliography is a book that contains a list of publications arranged systematically; a Directory is a collection containing lists of figures or organisations, or institutions that are arranged systematically, usually alphabetically; Geographical sources are a collection of information about cities, islands, mountains, lakes, rivers, and natural sources as well as human works related to nature; A yearbook is a reference collection that contains up-to-date information in a descriptive or statistical form, which is sometimes limited to a single subject. Indexes and abstracts are reference collections that contain a list of written works systematically arranged to indicate where these materials can be found. The written work can be in the form of periodicals, sections of textbooks, theses, and dissertations (Saleh et al., 2014).

There are three main elements in the village library, namely: 1. the library as a facility, 2. the library as a supporter of education, and 3. the village library is integrated with village development. Techniques for organising a village library, which include the following activities:

1.  Arranging the library building/room, among others, by arranging bookcases, catalogue cabinets, reading tables, and other equipment

2.  Developing good collections through purchases, gifts, exchanges, community donations and others

3.  Guiding the public, including loan administration methods, guidance to readers and other information services

The library will function optimally and efficiently if all the potential in the library, such as (1) collection of books, (2) users, (3) facilities, and (4) library managers can be appropriately managed (Rufaidah, 2011).

Furthermore, the preparation of a collection of books that are neat, orderly, systematic and consistent can make it easier for users to find the book information. One method for managing workplace

Masnur, D., Romy, Syafri, Yohanes, Susilawati, A., & Putra, A. (2023). Optimizing of Library Management Based 5S Method (Case Study: Buluh Cina Village, Kampar District, Riau). *Jurnal Pemberdayaan Masyarakat Madani (JPMM)*, *7*(2) 2023, 212-229.

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conditions that has a direct impact on improving quality, efficiency, effectiveness, and reducing waste, creating safe and comfortable working conditions is the 5S method.

According to Omogbai & Salonitis (2017), the 5S method (Seiri, Seiton, Seito, Seiketsu and Shitsuke) is sorting the workplace, organising, cleaning, maintaining steady conditions and maintaining the habits needed to do a good job. Meanwhile, according to Gupta (2022), 5S is a process of changing attitudes by applying the structuring and cleanliness of the workplace. According to Hafidz & Soediantono (2022), the 5S program is the basis for the mentality of employees to make improvements and create quality awareness. Meanwhile, according to Febri & Susilawati (2022) and Saefulloh et al. (2015), the 5S method is a stage for regulating workplace conditions that impact work effectiveness, efficiency, productivity and work safety.

A computerized library system is a system created to make it easier for library staff to manage a library. The computerized library management process will make it easier for library staff to always monitor book availability, new book lists, book borrowing and returning books (Marcel & Faustin, 2020). More, the library visitor or member can be easier to find book collections, book shelves, book stocks and other things needed by each library member or library visitor (Dewinta et al., 2022; Mersand et al., 2019). Therefore, the existence of a computerized system at the Village Library, it is hoped that service to visitors and library members will be more effective, efficient, and can minimize errors in managing library data.

This community service activity aims to develop and improve library management using the 5S method and book inventory-based computerised system in Buluh Cina Village, Kampar District, Riau Province. The condition of the Library in Buluh Cina Village (before the community service activity was carried out) in terms of managing book data still used a manual system. Book data and library member data had yet to be compiled into a database, resulting in difficulties in collecting book data, searching for the names of library members, and borrowing and returning books. This community service activity is expected to help improve reference services, collections, managing governance, facilities and infrastructure in the Buluh Cina Village library. Moreover, book inventory-based computerisation made an adequate library information system to process loans, returns, and borrowing requests to be fast, precise and accurate information. Therefore, the management and services in Buluh Cina Library can be optimal and satisfactory for community users.

## LITERATURE REVIEW

The community can utilise public libraries to access resources and provide access to knowledge development, continuing personal skills and lifelong learning. According to Yan & Agnes (2009), public libraries can become centres of intellectual life for the areas they serve and a means of accessing the knowledge and information needed by the community. Libraries can contribute to community empowerment by providing free public access to book resources, helping people find information and running programs that promote lifelong learning and literacy in the community.

According to Griffis & Jonhson (2013), village libraries can help encourage community members to read books, access knowledge and information, and use all library materials for education and entertainment. Furthermore, libraries can help rural children and adults retain their knowledge, help rural communities understand social, political and economic aspects, and assist the development of healthy family life by providing materials on social, economic and health development (Omeluzor et al., 2017).

The theory of library catalogues is fundamental terms to the preparation of cataloguing codes. The standard classification schemes in public libraries include the Dewey Decimal Classification (DDC), Colon Classification (CC) and Library of Congress Classification (LCC) (Diao, 2018). The purpose of cataloguing is to manage the library works collection efficiently, locate and retrieve the required knowledge resources easily, save efforts and time for the staff and the user, and assist the users with alternative knowledge resources (Diao, 2018; Atanda et al., 2017).

Better management of the community library can increase the number of visitors. One method for managing libraries is 5S. The application of the 5S method in libraries can provide guidelines for maintaining a pleasant environment for library staff to work and library users to learn and socialise (Mondal, 2020). Radad & Khosravi (2013) stated that the 5S practice can improve the quality of library services to increase user satisfaction.

Method 5S, namely Seiri, Seiton, Seiso, Seiketsu, and Shitsuke, is a method that was first developed in Japan by Takashi Osada. The 5S is a systematic approach to organise the work area according to established standards applied systematically or sequentially to improve working environment conditions (Shaikh, (2015). The 5S implementation is an improvement activity continuously to optimise work effectiveness and efficiency and minimise costs (Shifa, 2021). 5S implementation can be detailed in the form of systematic steps, namely:

1. Seiri (Brief)

- Checking the goods in each work area.

- Start sorting goods into two categories, namely goods that are used and not used.

- Give a red label for damaged or unused items and move them to a temporary disposal site.

2. Seiton (Neat)

- Designing a place to store goods that are easily retrieved when needed.

- Placing the necessary items into a pre-designed place.

- Provide a label or identity to make it easier to return to its original place or make it easier to use.

3. Seiso (Clean)

- Look for sources of dirt or garbage and find ways to deal with them.

- Establish preventive actions to reduce contamination.

4. Seiketsu (Treat)

- Setting standards for cleanliness, placement and arrangement.

- Communicate to every employee who is working in the work area.

5. Shitsuke (Diligent)

- Getting used to the condition of the work area is always under established standards.

- Carry out periodic inspections.

- Make corrections if deviations are found.

- Make improvements to increase effectiveness.

According to Gupta (2022), the 5S concept is:

1.  Seiri (briefly): Classify items that are needed and not needed in the work area and eliminate unnecessary items so that the work area becomes compact. Only store the items needed close to make it more efficient.

2.  Seiton (neat): All goods are placed under the specified position so that goods are easy to find stored and easy to find when needed. It can be done by grouping items based on a specific use, name and location.

3.  Seiso (clean): Maintain the condition of the equipment and work area ready for use and clean. Cleaning not only cleaning that is dirty but includes inspection and maintenance of equipment and work area.

4.  Seiketsu (care): applying the concept of cleanliness to individuals and practising continuously

the previous three steps so that the work area will be continuously maintained.

5.  Shitsuke (diligent): Build individual discipline in implementing the 5S steps through work norms and standardisation. It includes teaching everyone what to do and ensuring each person does so that good habits will be formed.

A library-based computerised system is defined as a set of rules or elements within an organisation that are used to meet existing needs in the library. The information system consists of five components, namely hardware, software, data, procedures and people (Mukhtar et al., 2020).

## METHOD

This study used a qualitative method with a descriptive approach to a case study in a village library. Data collection techniques used observation techniques, interviews, and documentation. The initial survey was conducted by visiting the case study locations to obtain information related to matters of library management, facilities and infrastructure in Buluh Cina Village, Siak Hulu District, Kampar District, Riau Province. The village library is open from 09.00 to 15.00 according to employee working hours. After collecting data, all data was processed and analyzed using a qualitative descriptive method by adopting the 5S method (i.e. Seiri (Sort), Seiton (Straighten), Seiso (Sweep and Clean), Seiketsu (Systematize), and Shitsuke (Standardize).

5S (seiri, seiton, seiso, seiketsu, shitsuke) are five steps to organize and maintain a workplace (Agrahari et al., 2015; Ahuja & Singh, 2018; Ashraf et al., 2017):

1.  Seiri, distinguish between what is needed and what is not in the work area and eliminate what is not. Create a concise workplace which only holds the necessary items.

2.  Seiton, everything must be placed according to the position specified to be ready for use when needed.

3.  Seiso, maintain the machine's condition, which is ready to use and create a clean place and work environment. Cleaning is not just cleaning but must be seen as a form of inspection. Cleaning is a process that considers every important machine or tool because it has its demands and capabilities and tries to take good care of it.

4.  Seiketsu, expanding the concept of personal hygiene and continuously practising the previous three steps. Always try to maintain suitable conditions through standards. Seiketsu is meant for each individual to apply the three previous principles continuously. The implementation of this seiketsu phase makes the environment always maintained continuously.

5.  Shitsuke, build personal self-discipline and get used to implementing 5S through work norms and standardization. The emphasis is on creating a workplace of good habits and behaviour. By teaching everyone what to do and ordering everyone to do it, bad habits are discarded, and good habits are formed.

Previously, the data processing process at the Buluh Cina Village library, such as membership registration, loan transactions and book returns, was done manually. So, the process of registration takes time in registering new members, as well as the process of searching for old member data. The borrowing and returning process was still done manually. Hence, data errors often occur, which result in the books available in the records not matching the books in the library. Therefore, a computerized system was needed so that library management in the Buluh Cina Village library was more effective and efficient.

The design of a computer-based book inventory system at the Buluh Cina village library was:

1.  Analyze the system currently used for book inventory in the library.

2.  Collect data on books and library members.

3.  Develop suitable software that can be implemented in the library and specify the needs of officers in developing this system.

**RESULT AND DISCUSSION**

The Buluh Cina village government already has building facilities, a collection of library books, and one employee. The library room building has a floor area of 4x8 m, filled with several bookshelves, a reading room, and an administration room (Figure 1).

During its operation, the library experienced several obstacles, including the existing collection of books, which needed an inventory list and needed to be correctly registered. Furthermore, the management of loans could have been better organized. There are more than 500 copies of the book collection, and the types of books vary from topics on agriculture, animal husbandry, school manuals, arts, and religion. The inventory of these books still needed coding. Borrower recording was done by noting the title of the book.

The absence of an inventory list makes it difficult to map collection books categories, so it is necessary to make a book inventory list. Borrowing by recording books titles is quite difficult for librarians so that book management is needed to facilitate work.
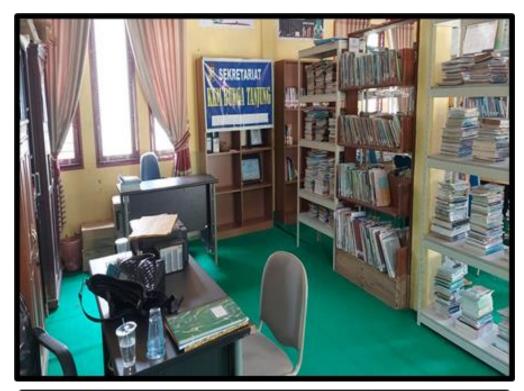
**Figure 1.**

The Buluh Cina Village Library Room

**The Implementation of the 5S Method in the Buluh Cina Village Library**

SEIRI is differentiating between what is needed and what is not needed. For the convenience of visitors, other items that are not needed in the library must be removed. There are written procedures for the elimination or disposal of unused items, items/equipment not needed so that all items or equipment are in a condition that is regularly used and all unused items are easily identified.

Steps to perform Seiri:

1. Check the items in each area.

2. Define categories of used and unused items.

3. Give a red label (red tag) on items that are not used.

4. Prepare a place to store, throw away or separate items that are not used.

5. Move items labelled red (red tag) to a predetermined place.

By carrying out this first phase, the benefits are obtained, including the working area more space and much space that can be utilized, prevent malfunctions in existing items, and reducing the amount of use of storage media as well as the effectiveness of the place/reading room to make it safe and comfortable.

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|---|---|---|---|---|---|---|---|
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| 3 | NO | KODE | JUDUL | PENGARANG | PENERBIT | JENIS BUK | LOKASI RAK |
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| 5 | 2 | ID00002 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |
| 6 | 3 | ID00003 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |
| 7 | 4 | ID00004 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |
| 8 | 5 | ID00005 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |
| 9 | 6 | ID00006 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |
| 10 | 7 | ID00007 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |
| 11 | 8 | ID00008 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |
| 12 | 9 | ID00009 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |
| 13 | 10 | ID00010 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |
| 14 | 11 | ID00011 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |
| 15 | 12 | ID00012 | Pendidikan Lingkungan Hidup Untuk Sekolah Dasar Kelas 1 | Raj a Isriani | Kementrian Lingkungan Hidup dan Kehutanan Sekretariat Jenderal | Anak-anak | A |

**Figure 2.**

Library Book Collection Database

SEITON is everything in its place; all items have a specific location, and storage areas are clearly labelled and well organized. All items are placed in the correct location. There is a label/sign indicating the storage area so that it is easy to find and return. The next activity is data collection, categorization, and creation of a book database. Re-data collection of library collections is done by recording book identities in Excel files and providing inventory codes to facilitate book identification (Figure 2). This activity was carried out by categorizing books, copying the book identity on the computer, installing the book code, filling in the book identity on the book card, and installing the book card (Figure 3).



**Figure 3.**

Re-data Collection of Library Books

The collection of book collections for the service this time is targeted for 500 copies of books. Service activities also include spatial arrangement and shelves according to book categories and providing a comfortable reading room so that users are in demand.

The end of this activity explains the inventory management system and book lending. Inventory management, such as book identification and book positioning, can be done with an inventory Excel file. The librarian only needs to input the book code to get the book's identity and the bookshelf (Figure 4). The existence of this system makes it easier for officers to put back the books that have been read in their original place. Replacing books can be done quickly. The librarian only needs to input the book code, book data and shelf locations for storage displayed (Figure 4). This information facilitates the rearrangement of books that visitors have read. Furthermore, librarians can add their own if they get additional new book collections.

The Seiton method is referred to as the Signboard Strategy, namely placing objects or valuable items in a neat and orderly manner and then giving an indication or explanation of the place, the name of the item and how much of the item so that when it is used, the item is easily and quickly accessed. In the context of 5S, Seiton (Neat) organizes things so that everyone can find them quickly. Then, a pointer code is used to designate the name of each item and the place where it is stored (Saefulloh, (2015). The advantages of applying Neat (Seiton): Make it easier to find items because they are already in their original place. Also, facilitate stock counting because the goods have been tidied up under storage standards. Therefore, the working condition looks much neater and pleasing to the eye, to provide comfort in working.



**Figure 4.**

Data Search and Book Placement Shelves Based on Book Code

SEISO discipline regularly maintains a clean and organized workplace. The equipment, computers, work surfaces and storage areas are clean, garbage and recyclables are collected and disposed of, and shared areas are regularly cleaned and maintained. All floors are kept clean and shiny. Cleaning is always carried out according to the SEISO checklist activity. There is a rotation of cleaning responsibilities within the designated work area. A clean and orderly workplace has become the habit of all library employees and visitors.

Neat (Seiso) has the goals: to create a comfortable and safe work environment, maintain safety and health, and prevent damage to machines, equipment and work areas. Steps to do Neat (Seiso): 1. Clean the workplace from all dirt, dust and garbage. 2. Provide facilities and infrastructure for cleanliness in the workplace. 3. Minimizing sources of dirt and waste. 4. Updating or repairing damaged or obsolete workplaces. Some of the advantages of doing Neat (Seiso):

The work environment is much cleaner; it improves the mood of work because of the clean environment; the quality of goods is better because they are not dirty.

SEIKETSU is standardizing 3S practices (Seiri, Seiton, and Seiso). Staff can be trained and fully understand 5S procedures. The 5S standard is displayed as a management tool to visually when work is complete. The air is clean and odourless. The location and intensity of lighting are sufficient. There is an apparent effort to avoid soiling, and there are written systems and procedures about 5S in the reading area of the library. The purpose of treatment (Seiketsu): 1. Maintain or care for tools, materials and the environment so that they always function as they should. 2. Maintain a concise, tidy, clean and orderly situation in the work area. Steps to treat (Seiketsu): 1. Set standards for cleanliness, placement and arrangement. 2. Communication with every employee who is working in the workplace. 3. Maintaining the three conditions above from time to time or continuously. The advantage of carrying out the Seiketsu (Treatment) phase is creating an environment that is always maintained in a concise, neat and clean condition on an ongoing basis.

Another explanation is the use of a borrower's card, which is used to record the identity of the book borrowed and the return date. This card makes it easier for officers to control the return of books or find out the identities of books lent. Improving library governance was carried out by preparing book cards and loan cards, followed by making a book inventory.

**KARTU PEMINJAMAN**

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**KARTU BUKU**

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**Figure 5.**

An Example of a Loan Card and Book Card Design

Masnur, D., Romy, Syafri, Yohanes, Susilawati, A., & Putra, A. (2023). Optimizing of Library Management Based 5S Method (Case Study: Buluh Cina Village, Kampar District, Riau). *Jurnal Pemberdayaan Masyarakat Madani (JPMM)*, 7(2) 2023, 212-229.

SHITSUKE stick to the rules (self-discipline). Everyone who is involved in improving the library governance of Buluh Cina village. Standard cleaning and work procedures. Written procedures are implemented and communicated by everyone in the library organization; everyone is present and actively involved in the meeting for the success of their work area. There are written rules and procedures regarding 5S that all library employees and visitors understand.

Purpose of diligence (Shitsuke): 1. Minimize loss. 2. Maintain the implementation of each method in 4S. 3. Make 4S a habit or habit. Steps to do Diligent (Shitsuke): 1. Target together. 2. Exemplary superiors. 3. Relations or communication in the work environment. 4. Discipline self to do the 5S method. Some things that show that someone has implemented the 5S Method are: 1. Dispose of trash in its place. 2. Do not spit anywhere. 3. Items are neatly arranged. 4. Clean and comfortable work environment. 5. Picking up scattered trash. 6. Carry out cleaning pickets without being ordered.

Activities that seek to keep the 5S culture alive are significant, considering that creating a work culture must be carried out continuously and supported by all management and employees. Changing work culture is more challenging than turning the palm. It takes commitment, patience, excellence, discipline and passion. The success of 5S lies in the extent to which people make 5S a habit or habit, not compulsion, so that improvement initiatives emerge by themselves.

**The Data Inventory Management Based Computerize in Library of Buluh Cina Village**

Management running at the Buluh Cina village library still used manual recording such as in the process of borrowing and returning books, registering and managing library membership, the books collection archiving and the books inventory did not have a good code. Hence, the community service activities developed a computer-based information system. So, the data information can be more easily accessed and stored in a database. Moreover, a computerised system for borrowing and returning and making reports on borrowing and returning books is faster. In addition, using a database computerised system reduces the risk of losing important data and produces more accurate and timely information.

The result of developing the data management system in the Buluh Cina library was the information needed for managing: books data, detailed data on books and their categories, data on borrowing and returning books, books data reports and library members data.

The book catalogue display was used to add, edit, and delete book data in the Buluh Cina village library. The results of data on borrowing and returning books were used to enter loan or return data starting from the name members, book title up to date of borrowing and date of return.

The results of the computer system displaying report data were used to display all data, members' and their borrowing or return books data. The search can also be done by date, month and year. Library

data management, especially borrowing and returning books, was better recorded, and the process easier for monitoring book stock in the library.

Some advantages resulted from the community services activities in Buluh Cina Village Library:

1. Library data processing: inventory, classification, cataloguing, and labelling that were computerised systems. Hence, it can be completed and processed faster.

2. Library books' data management and reporting can be accessed faster, and the routine work more manageable for librarian staff.

The book management process of data entry, circulation (borrowing and returning library books), information retrieval system and reporting can be done quickly, accurately, and practically using a computerised system. Therefore, it made it easier for the visitors or community members of the library to learn and search for information and connect with other parties in terms of using the library.

## CONCLUTION AND RECOMMENDATION

Library management based on the 5S method in Buluh Cina Village, Kampar Regency, Riau, resulted in a broader reading area and more usable space, reduced the amount of storage media used and the effectiveness of the place/reading room to make it safe and comfortable. Library management based on the computerised system in Buluh Cina Village resulted in an existing book collection made in a database that contains the identity of the books and their shelf placement. Furthermore, a system for finding book identities based on book codes used data from a computer. Some recommendations that can be given for further activities are the development of a books database for all existing collections. Interest in visits from community groups needs to be increased in the form of books in the library collection with topics related to people's daily lives. The existence of internet facilities in the library is expected to attract millennials to visit the library.

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