



# Implementation of Collection Security Technology at the Tanjungpura University Library

<sup>1</sup>Diah Sapania

<sup>1</sup>Universitas Tanjungpura, Pontianak

[diahspania4@gmail.com](mailto:diahspania4@gmail.com)

[F0271211009@student.untan.ac.id](mailto:F0271211009@student.untan.ac.id)

DOI: <http://dx.doi.org/10.30742/tb.v9i2.4294>

Received: 3 March 2025

Revised: 29 March 2025

Accepted: 15 April 2025

## ABSTRACT

A security system is security that is used to protect collections to avoid damage, theft and violations committed by users. A security system is needed so that users who visit the library do not violate copyright and damage especially the thesis collection. **Purpose Research.** This research aims to describe the use of security systems and strategies in optimizing collection security at the Tanjungpura University Library. **Research Methods.** The method used was a qualitative method with observation research techniques and interviews with 7 informants. **Data Analysis.** Data analysis techniques use data reduction, data presentation, and drawing conclusions. Data validity checking techniques use extended observations, increasing persistence and data triangulation. **Result.** The results of the research show that the use of the security system at the Tanjungpura University Library is carried out to obtain: 1) physical security in the building, doors, room lighting and security personnel, 2) the use of CCTV, barcode, RFID and security gate technology, 3) collection security policy thesis. The strategy for optimizing the use of the security system is through: 1) door security is equipped with locks to prevent theft, and security personnel have been provided with CCTV to help control, 2) tighten CCTV and frequently check to find out activities in the library, 3) tighten the use of KTM and KA for visiting users to prevent loss of collections.

**Keywords:** Security System; RFID; Security Gate; Collection Security

## A. INTRODUCTION

Security systems are currently believed to be a form of technology-based protection used to maintain security. In fact, the library has implemented a security system to protect the security of the collection. This is supported by the definition of a library security system, which is used to maintain the security of collections to avoid physical damage, loss, and maintain the confidentiality of information contained in the collection. Security systems assist librarians in supervising collections, monitoring suspicious behavior of users, and providing warnings to users if actions occur that could be detrimental to the library (Erlianti, 2017).

The security system is associated with the existing security in the library. Tanjungpura University Library is a university library that provides services to users to meet information needs in the form of collections. Tanjungpura University Library provides reference source services to the entire Tanjungpura University



academic community, as well as providing services to external users. Providing reference sources in the form of books, journals, encyclopedias, dictionaries, theses, magazines, and newspapers. I Tanjungpura University students who visit the library are required to use a KTM (Student Identity Card), while foreign visitors who visit must register to become library members first.

Tanjungpura University Library has implemented several security systems, such as barcodes, RFID, security gates, CCTV, and security personnel (security guards). However, the problem at the Tanjungpura University Library, especially in the reference room, is that users do not follow the rules for using the thesis collection. Researchers found that more than five students had violated their thesis by taking photos and folding parts of the collection they were using.

Tanjungpura University Library has implemented CCTV (Closed Circuit Television) to monitor users. However, the implementation of CCTV (Closed Circuit Television) is still less effective in dealing with violations because the librarian is not directly responsible for supervision. Other problems found are that it has been two months from July to August 2024. The CCTV (Closed Circuit Television) of the Tanjungpura University Library experienced problems, so that efforts can be made regarding the security of the collection through the librarian's accuracy in providing manual controls to prevent damage to the collection and violations (Pratiwi et al., 2022).

A security system is a combination of two words: security and system. Security has broad topics, such as home security to avoid theft. A system is a device that is interconnected to form a system. A library security system is an action to provide a sense of security, free from crime and danger (Hafiz, 2019). A security system is used to protect collections with the help of Barcode technology, RFID, Security gates, CCTV (Closed Circuit Television), and security personnel (security guards). A security system is an important part of a system that prioritizes protecting confidential storage and processing (Pertama & Ardiyasa, 2019). Security systems are related to the presence of technology, especially protection from accidents and disasters, whether due to natural disasters or human activities. A library security system is a component of machines and humans that supports the function of a library (Nurochman, 2016).

Based on the background above, researchers are interested in researching the title "Application of a Security System for Collection Security at the Tanjungpura University Library". This research was conducted to answer the problem formulation that will be studied during the research process, and problems currently occurring in the field.

## B. METHODS

The method used in this research is qualitative; the researcher focused on in-depth observational research related to the Use of Security Systems for Collection Security at the Tanjungpura University Library. The researcher used descriptive research with a qualitative data analysis approach, describing objects according to field reality. This research was conducted at the Library of Tanjungpura University (Jl. Professor Dokter H. Hadari Nawawi, Bansir Laut, Kec. Southeast Pontianak,

Pontianak City, West Kalimantan 78115). The research was carried out for 3 months, from June to August 2024, at the Library of Tanjungpura University.

This study had seven sources (informants): the head of the library, two circulation and thesis service librarians, one security personnel or security guard, and three students who visited the Tanjungpura University Library. Primary data was obtained from oral interviews with the head of the library, librarian staff, security personnel (security guards), and students who visited the Tanjungpura University Library and were directly involved in using the security library system through a direct observation process. Secondary data is obtained from documents, photographs, or video recordings to complement and strengthen primary data. This research uses several methods to collect data: observation, interviews, and documentation. The data analysis process in this research uses three steps: data reduction, data presentation, and drawing conclusions.

## C. RESULT AND DISCUSSION

A security system maintains and protects the library environment through collections, users, and librarians (Hafiz, 2019). Using the security system in question is the benefit obtained from implementing the security system to assist librarians in maintaining the security of collections to avoid damage and loss. The Tanjungpura University Library utilizes a security system for collection security by implementing three forms of security: physical security, use of technology, and security policies.

A. Library physical security is carried out to provide protection in the form of:

### I. Building



Figure 1. Tanjungpura University Library Building  
Sources: Primary Data Processing 2024

The Tanjungpura University Library building has a perfect design for providing services. The building design uses sturdy materials and tools so that it can accommodate the activities in the library. Building safety needs to be considered during construction so that things do not happen that could endanger users. To find out about security in the building, researchers interviewed Mr. Abdullah Imam,

as head of the Tanjungpura University Library, on Monday, August 5, 2024, who said that:

"The library provides physical security in buildings that have been specially designed for visiting users, including people with disabilities, by providing facilities such as lifts and sloping stairs, while for normal users, the stairs are not made steep and are safe for users to use, the placement of the building which is strategic because it is surrounded by faculties and a busy center of community activity which is close to the library."

The results of the interview above explain that the library has provided physical security within the building. Providing facilities such as stairs and lifts to make it easier for regular users and people with disabilities when visiting the library. Apart from that, the library also feels that the current location of the building is quite strategic because it is near the center of the crowd. This shows that library managers understand the importance of providing facilities for regular users and those with special needs so that user discrimination does not occur (Rahmayani, 2020). Mrs. Kartini also expressed the same thing as the librarian of the Tanjungpura University Library, who said (Wednesday, 31 July 2024) that:

"Physical security in library buildings is very important. Both in terms of the building used, it must be really sturdy and strong because it is to maintain the security of the collection and the users who visit the library."

The results of the interview above explain that the physical security of library buildings is critical because they are provided for users to meet their information needs, so the building must be sturdy and strong for mutual security. The ideal physical condition of a college library building is that it can provide sufficient space to accommodate users, collections, and all the furniture provided to meet the interior needs of the library. The materials used during construction must be strong enough for a long time (Widiyastuti, 2019).

## 2. Door



Figure 2. Tanjungpura University Library Building  
Sources: Primary Data Processing 2024

The picture above is the entrance to the Tanjungpura University Library. The door is where users and librarians come in and out when in the library. The

installation of library doors must be strong because theft is usually done through the door (Erlianti, 2017). The door design used by the Tanjungpura University Library is made of thick glass, so there is little chance of theft. The researcher interviewed the library door with Mr. Abdullah Imam, as head of the Tanjungpura University Library, saying (Monday, August 5, 2024) that:

“The door design was made for the flow of visitors entering and exiting the library room which must be recorded. “So the door design makes it easier for students to enter the library, and makes it easier for librarians to provide access to the room by filling in the visit list.”

The interview results above explain the door's design as a place to record the entry and exit of users. After entering the door, the user will carry out security procedures through the librarian in the circulation service area so that they can enter the library room. The flow that users must go through is scanning their KTM to fill in the visit list. A room with a door should protect various important assets in the library. The library doors must have special security to prevent theft (Siswanto et al., 2019).

### 3. Lighting



Figure 3. Tanjungpura University Library lighting  
Source: Primary Data Processing 2024

Lighting is the lighting provided to illuminate a room. Helpful in increasing security and comfort for users who visit the library. Good lighting can make reading activities and processes easier in the library (Pahlevi, 2022). The lighting in the room at the Tanjungpura University Library is equipped with light from lamps and assisted by sunlight. This lighting is provided so that the collections in the library remain safe and do not suffer damage due to humidity. The researcher conducted an interview regarding room lighting with Mr. Abdullah Imam, as head of the Tanjungpura University Library, who said (Monday, August 5, 2024) that:

“The lighting in the library is quite good, namely lighting from sunlight, lighting from outside, and assisted lighting from lamps that are bright enough for the library room.”

Based on the interview results above, the lighting in the room at the Tanjungpura University Library uses lighting from neon lights and sunlight, which is bright enough to illuminate the library room. The design in the room is equipped with shades of white paint, which helps increase the lighting in the room. Lighting

is an aspect that needs to be considered when building a library because poor lighting can disrupt reading activities and cause eye fatigue, so libraries need to provide good lighting to avoid concerns that could endanger the user's eyesight (Suhardi et al., 2015 ).

#### 4. Security Personnel



Figure 4. Tanjungpura University Library Security Personnel  
Source: Primary Data Processing 2024

Security personnel (security guards) are officers responsible for maintaining and securing the library environment from the parking to the areas inside the library room. Tanjungpura University Library has several security personnel (security guards) to assist the library in supervising users and library rooms. Security personnel are also tasked with documenting activities organized by the campus while in the library environment (Hafiz, 2019). The researcher interviewed with Mr. Abdullah Imam, as head of the Tanjungpura University Library, who said (Monday, August 5, 2024) that:

“The task of security personnel is to maintain the security of the of the Tanjungpura University Library which aims to provide security to users, such as security in the motorbike parking area to prevent theft, checking the security of indoor activities by controlling the librarian’s break times and work hours to ensure that all conditions are correct. It was left safely and there were no users or librarians in the library.”

The results of the interview above explain the aim of the Tanjungpura University Library security personnel, namely, to provide security to users in the parking area so that theft does not occur, and to check the room during opening to closing operating hours to ensure that the condition of the library when left is genuinely safe. The same thing was also said by Mrs. Kartini, as the librarian of the Tanjungpura University Library, regarding the duties of security personnel (Wednesday, 31 July 2024), namely:

“Security personnel are given the responsibility to maintain the security of the parking area and library room. By controlling each room during break times and closing times to ensure that all users and librarians have left the library room.”

The interview results explain the duties of the Tanjungpura University Library security personnel, namely, to control each room during break and closing times to ensure that all users are no longer in the room. Security personnel are the ones to carry out rescue and security duties in buildings and are always ready to provide an orderly environment (Rahman et al., 2019).

## B. Use of Technology

### I. CCTV (Closed Circuit Television)



Figure 5. CCTV Tanjungpura University Library

Source: Primary Data Processing 2024

Tanjungpura University Library has provided CCTV in every room. Used to maintain the security of collections, users, and librarians, as well as a tool to monitor activities while in the library to avoid theft. To obtain data, researchers interviewed Mr. Abdullah Imam, as head of the Tanjungpura University Library, who said regarding CCTV (Monday, August 5, 2024), namely:

“In maintaining the security of the collection, the library has implemented a technological security system in the form of CCTV to monitor the activities of users and librarians while in the library. “Apart from that, CCTV technology is used to record all activities and actions that could be detrimental to the library to ensure the security of the collection and the security of users in the library to avoid acts of theft and vandalism.”

The results of the interview above explain that the security of the Tanjungpura University Library CCTV is used to assist the library in overcoming problems with collections and usage in order to avoid actions that could be detrimental to the library. A similar thing was expressed by Mrs. Yuli, as head of the Security Personnel of the Tanjungpura University Library, who is responsible for CCTV monitoring of areas outside the library, saying (Thursday, August 1, 2024) that:

“The use of CCTV in the library is good, which is used to make the work of security personnel easier in monitoring the security situation in outside areas such as the library parking area to avoid theft.”

## 2. Barcode



Gambar 6. Barcode Perpustakaan Universitas Tanjungpura  
Sumber: Olah Data Primer 2024

Barcodes are thick and thin black lines arranged horizontally and in rows attached to collections. Barcodes prevent users from stealing their collections (Nuansa, 2017). Tanjungpura University Library has also implemented a barcode system as a collection borrowing procedure. To obtain data, the researcher interviewed Mrs. Anis Minarni, as the librarian of the Tanjungpura University Library, regarding the use of the barcode system (Wednesday, July 31, 2024), namely:

"The library collection barcode system is used for the borrowing process and to record collections used by users."

Based on the interview results above, the Tanjungpura University Library barcode system is used as a collection borrowing process and as a data collection for books that users use to minimize collection loss. Barcode technology helps provide speed and accuracy of service for librarians during the borrowing process, because it can record who is borrowing and collect data on the collection being borrowed, so that if damage or loss occurs, the librarian can know who is responsible for the collection through the barcode technology system. (Afrinaldi, 2020).

## 3. Security Gate dan RFID (Radio Frequency Identification)



Figure 7. Security Gate Tanjungpura University Library  
Source: Primary Data Processing 2024



“The RFID security system and security gate are technologies used to overcome problems in collections where the collection has been installed with a chip so that if the collection does not go through a valid borrowing procedure, the RFID will make a sound and the security gate will react to the collection when it is taken out of room. The use of this technology is used to overcome acts of theft and loss of collections in libraries.”

The results of the interview above explain that RFID security and security gates are used to overcome problems with collections when borrowing. Collections that have had a chip installed and do not carry out valid borrowing procedures will cause the door to react in the form of a sound as a sign of a violation when borrowing (Angga et al., 2017).

### C. Security Policy

The library security policy is a guide and basic reference for staff in maintaining collection security. Security policies provide direction and support regarding the clarity of plans, rules, and practices in a particular organization. So, a security policy is a plan to form a library security regulatory system (Nuansa, 2017). The researcher made observations regarding the thesis collection security policy (Monday, July 15, 2024) that at the Tanjungpura University Library prohibits users from committing violations of theses, such as taking photos, and these regulations are clearly laid out on each table, which says “photographing of theses in use is prohibited.” Based on the results of the researcher’s observations, the library forbids users from violating the thesis collection by taking photos, and these regulations are written on every table. For users who wish to use a thesis, the librarian permits photocopying, and users are only permitted to use the thesis in the library room. Violation of collections is a disgraceful act and can damage the reputation of libraries and users, so it is important for users to always comply with the regulations that have been provided (Syaharuddin et al., 2021).

In the thesis reference room, there is also CCTV to monitor users and librarians. Apart from that, the problem with the use of library CCTV is that CCTV monitoring is not carried out directly by the librarian, and it has been two months since the CCTV was damaged, so this can prevent librarians from knowing the actions of users while in the library room. To obtain data related to the obstacles that have been described, the researcher interviewed Mrs. Kartini, a librarian in the thesis reference room, who said (Wednesday, July 31, 2024) that:

“In dealing with these user actions, we as librarians will carry out manual supervision by going around and visiting users who look suspicious, then give a light warning if any user is caught and will delete the photos of the thesis collection.”

The results of the interview above explain that in dealing with user actions, the librarian always provides manual control. The librarian will delete the photos on the user’s cellphone when the user is caught committing this violation. Maintaining the security of library collections requires awareness and cooperation between users and librarians so that collections do not experience damage or loss and avoid violations. Users must also consider the etiquette of visiting the library.

Good users must follow the regulations implemented so that activities can run smoothly (Putra, 2022).

## E. CONCLUSION

Based on the results of interviews and observations that have been carried out, it can be concluded that the use of the security system at the Tanjungpura University Library to maintain the security of the collection is quite good because the library has never found any user who has committed direct acts of vandalism, violation, or theft. Even though researchers still find users who commit violations against collections, the strategy carried out by the library to optimize the security of collections at the Tanjungpura University Library is carried out through: 1) the physical security of the library, buildings, and premises is good enough for long-term use, and the design of the doors is good. Equipped with a padlock to minimize theft, bright room lighting for collection security and user comfort when reading, as well as room control carried out by security personnel to avoid acts of theft in the library, 2) use of CCTV, Barcode, RFID and Security technology Gates are useful for keeping collections from being lost, 3) security policies when using KTM (Student Identity Cards) and KA (Member Cards) help make it easier for librarians to prevent theft and loss of collections.

Even though the Tanjungpura University Library has implemented CCTV technology in the library, this does not guarantee that the user's actions are well-controlled. The CCTV monitoring process is also not carried out directly by librarians, so it is necessary to manually control librarians in the reference room to prevent library violations. Apart from that, another problem has been that the CCTV in the library has been damaged for two months and has not been repaired by the superior responsible for security.

## REFERENCE

Afrinaldi, A., & Jumaryadi, Y. (2020). Barcode Based Digital Library Information System Application (Case Study: SMA Yadika 3 Karang Tengah). *Journal of Information Systems and Informatics*, 2(1), 44–59. <https://doi.org/10.33557/journalisi.v2i1.39>.

Angga, P., Dedi, T., & Suhardi. (2017). Sistem Manajemen Perpustakaan Menggunakan Radio Frequency Identification (Rfid). *Coding Jurnal Komputer Dan Aplikasi*, 5(3), 32–39. <https://doi.org/10.26418/coding.v5i3.22118>.

Erlianti, G. (2017). Penerapan Sistem Keamanan Koleksi Pada Perpustakaan Kota Yogyakarta. *Shaut Al-Maktabah : Jurnal Perpustakaan, Arsip Dan Dokumentasi*, 9(1), 115–124.

Hafiz. (2019). Analisis Sistem Keamanan Perpustakaan dalam Pencegahan Kerusakan Koleksi di Perpustakaan FKIP UNSYIAH.

Nuansa, G., & Rohmiyati, Y. (2017). Evaluasi Sistem Keamanan Perpustakaan Bagi Perlindungan Koleksi Di Perpustakaan Provinsi Jawa Tengah. *Jurnal Ilmu*



Perpustakaan, 6(3), 501–510.  
<https://ejournal3.undip.ac.id/index.php/jip/article/view/23182>.

Nurochman, A. (2016). Manajemen Risiko Sistem Informasi Perpustakaan (Studi Kasus di Perpustakaan Universitas Gadjah Mada). Berkala Ilmu Perpustakaan Dan Informasi, 10(2), 1. <https://doi.org/10.22146/bip.8830>.

Pahlevi, M. R., & Muliadi, M. (2022). Analisis dan Desain Tingkat Pencahayaan Pada Ruang Perpustakaan Universitas Iskandar Muda. Jambura Journal of Electrical and Electronics Engineering, 4(2), 196–201. <https://doi.org/10.37905/jeee.v4i2.14501>.

Pertama, P. P. G. P., & Ardiyasa, I. W. (2019). Audit Keamanan Sistem Informasi Perpustakaan STMIK STIKOM Bali Menggunakan Kerangka Kerja COBIT. Jurnal Sistem Dan Informatika, 13(2), 1–4. <https://doi.org/https://doi.org/10.24014/rmsi.v4i2.5690>.

Putra, D. D. (2022). Aspek Etika Pada Layanan Referensi Dan Informasi Di Perpustakaan: Sebuah Ulasan. Journal of Documentation and Information Science, 6(2), 84–92. <https://doi.org/10.33505/jodis.v6i2.220>.

Rahman, A., Ramdhani, M. H., Partiwi, S. G., & Maryani, A. (2019). Perancangan Aplikasi Patroli Keamanan Dan Keselamatan Kampus. Industri Inovatif : Jurnal Teknik Industri, 8(1), 9–14. <https://doi.org/10.36040/industri.v8i1.663>.

Siswanto, S., Anif, M., Hayati, D. N., & Yuhefizar, Y. (2019). Pengamanan Pintu Ruangan Menggunakan Arduino Mega 2560, MQ-2, DHT-11 Berbasis Android. Jurnal RESTI (Rekayasa Sistem Dan Teknologi Informasi), 3(1), 66–72. <https://doi.org/10.29207/resti.v3i1.797>.

Suhardi, B., Laksono, P. W., & Hakim, R. (2015). Analisis Dan Usulan Perbaikan Pencahayaan Pada Ruang Skripsi Perpustakaan Pusat Universitas Sebelas Maret Surakarta. PERFORMA : Media Ilmiah Teknik Industri, 14(2), 133–140. <https://doi.org/10.20961/performa.14.2.11036>.

Syaharuddin, S., Mandailina, V., Saddam, S., Perwira Negara, H. R., Satriawan, R., & Ibrahim, M. (2021). Minimalisasi Tingkat Plagiat Karya Ilmiah Mahasiswa Melalui Workshop Software Plagiarism Checker X. Bakti Cendana, 4(1), 62–67. <https://doi.org/10.32938/bc.v4i1.902>.

Widiyastuti. (2019). Desain Perpustakaan Ideal Di Era Modern. Jurnal Ilmu Perpustakaan Dan Informasi, 3(2), 200–211. <https://doi.org/http://dx.doi.org/10.30829/jipi.v2i2.1256>.