# Need of CCTV Surveillance in Libraries for Security

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**Abstract***: The libraries are not only facing document theft problem libraries also struggle with security issues, including those related to building, equipment, material, and personal security as well as ethical and legal security. It is now the library's duty to ensure that patrons are adequately satisfied with both the services it offers and its security.*

**Keywords:** CCTV Camera Security, library security

## I. INTRODUCTION

The goal of all security measures and protocols is to control and reduce the possibility of security issues. The two types of security that apply to libraries are building security and a master plan that includes operating procedures that staff, security personnel, and the general public must adhere to. Libraries are primarily vulnerable to theft or damage to their holdings, acts of violence directed at other patrons within the premises, and physical damage caused by vandalism, accidents, or various other incidents. As a member of the library staff, it is your responsibility to ensure that everyone using the facilities is in a safe environment.

### LIBRARY SECURITY

The process of planning a library's security involves multiple steps and should be organized logically. Defining library assets is an excellent place to start. By defining asset security, we are able to determine the likelihood of certain security threats. A lot of libraries have a security team led by the Library Security (LSO), and they should get together on a regular basis to talk about and handle security-related issues (CR Ramamurthy 20011).(Source: ) The purpose of library security is to offer an adequate level of protection to the majority of the book collection, which is extremely susceptible to theft, as total security is an unachievable goal. based on the library's present needs

### SCURITY SOLUTIONS

The institute employs security guards specifically to prevent book theft at the library. In addition to vigilant employees and security guards, a range of firearms are available for use in library security (Ramamurthy, 2001). [/2] They are
Closed circuit television cameras
Electronically accessed entryways
Alarms on exit doors
Access authorization cards
Sign-in sheets
Pacing facilities and equipment's in high-visibility areas:
A library card must be presented through a system in order to be admitted.This severe action was necessary in response to several instances of materials being taken, reading rooms being abused, and pages from periodicals and reference books being torn. The library committee has chosen to install a CCTV camera system for video monitoring in order to address the issues the college library has mentioned, taking into account the cost and library budget.

**Types of CCTV Cameras**
1. **Dome CCTV Cameras**
A dome CCTV camera gets its name from the dome-shaped casing that the camera sits in. Whilst these are relatively discreet CCTV cameras in appearance, this doesn't stop them from deterring criminals. This is because the dome casing

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makes it really difficult for people to see which direction the camera is pointing. This creates an air of uncertainty for potential thieves or vandals approaching from all directions

## 2. Bullet CCTV Cameras
Bullet CCTV cameras have an iconic design that is highly visible. They are cylindrical in shape and are capable of observing long distances. Bullet cameras are most commonly placed outdoors so their casings are made resistant to water, dust and dirt.

## 3.C-Mount CCTV Cameras
C-Mount CCTV cameras are the ideal option for those who may wish to adapt the field of vision. They are equipped with detachable lenses that can be switched around to monitor varying distances. C-Mount cameras are typically bulky so, like bullet cameras, act as a visible deterrent to criminal activity.

## 4.Day/Night CCTV Cameras
These cameras have been built specifically to operate effectively, regardless of how well lit their environment is. During both daytime and night-time, they will record clear video images that will not be obscured by differing light conditions. This is achieved through their extra sensitive imaging chips.

## 5. Network/IP CCTV Cameras
These cameras share live footage across the internet so images can be easily accessed from anywhere on the globe. The bandwidth of the video is compressed, in order to make the online feed reliable. Archive footage is stored on network video recorders (NVRs) or on secure software for later access.

## 6. Wireless CCTV Cameras
Wireless CCTV cameras were created to minimise installation time. They also make the appearance of the camera much tidier, which may be an important factor for locations such as churches, museums or stately homes.

## 7. High Definition (HD) CCTV Cameras
HD CCTV cameras offer an unrivalled picture quality that delivers high clarity images. Depending on your budget, they can deliver resolutions of 720p, all the way up to 4K. Therefore, there's no danger that the subject of recordings will ever appear grainy or distorted.

## CCTV CAMERA SYSTEMS
Used CCTV and video surveillance systems are becoming prevalent in offices, retail establishments, public buildings, educational institutions, and libraries. A separate coaxial cable infrastructure is needed for the CCTV systems. This cable was made to transmit footage from a camera to a recorder at the same location point-to-point. The advancement to fiber optics and twisted pair was made possible by the invention of digital video.

## CCTV TECHNOLOGY EVOLUTION
The notion of CCTV was first introduced in the 1950s, but it wasn't until the 1970s that it became a reality thanks to advancements in solid state cameras and analog recording systems.
The primary drawback of this approach was the expense of the security monitoring station. Moreover, the security infrastructure's single point of failure was the centralized security center. It was necessary to run all control les and video feeds locally to this location. A new wire was frequently required when a camera was moved. Tape libraries need a lot of tapes, and because magnetic media can discharge magnetically or through static electricity, these systems don't always perform to their full potential.

## OPPTICAL FIBER AND UTP ANALOG CCTV SYSTEM

When signal strength over long distances requires the use of repeaters or when electromagnetic interference (EMI) is a concern (MCSE, 1998), optical fiber is occasionally employed in this setting

A second generation of cameras emerged with the introduction of UTP enabled cameras.It is now possible for IP addressable cameras to operate on a premises' current infrastructure. D-Link Neater

These systems take advantage of infrastructure's advantages over coaxial cable. Although this method could need pricey tapes and monitors, the central monitoring station's expenses are reduced. The video room's single point of failure is still there. Since cameras may be installed anywherethere is a network drop, moves, additions, and modifications are simpler.

## DIGITIZED VIDEO IN THE DIGITAL AGE

Many of the problems of the magnetic tape media library were addressed with the introduction of digital video recorders, or DVRs. Similar to how a file is kept on a PC, digital videos are stored on hard drives. This enables redundancy, decentralized viewing in higher image quality, and an extended recording lifetime. Digital transmissions can be preserved without the requirement for tape changes or human intervention.Longer recording durations are available, and these recordings can be viewed almost anywhere, instantly. IP (Internet Protocol) addressable cameras are simple to integrate into the security network thanks to open standards.The cost of data storage has also dropped significantly (Tulloch 2000)

## DIGITIZED VIDEO OVER IP

IP addressable cameras can be installed anywhere in the infrastructure thanks to the plug and play method. The electronic components of the surveillance system are already integrated and already handle IP traffic. Since the videos are digitally saved, they may be accessed on any network device and come with new security features that are managed by the network security regulations. Moreover, they may originate concurrently from several locations within the network. This is very versatile in addition to being simple to use. Another protocol does not load networks. Since transmissions are already a part of the infrastructure, additional cabling systems are not necessary.

The de facto networking standard is now TCP/IP. (Androuzan) [8] Several systems can share network space thanks to the open design.and benefit from recent technological advancements meant to increase network resource capacity, dependability, scalability, and accessibility. MCSE in 1998. In [9] One cabling system can be used to fully automate a building by leveraging its existing infrastructure. CCTV is just one aspect of this automation; other options include access and control, building automation systems, speech, fire/life safety systems, and, of course, network traffic.

## LIBRARY CCTV CAMERA SETUP

Different TV camera technologies are available depending on the kind of infrastructure support the company needs. CCTV systems are equipped with an analog connection that uses coaxial cable. Certain cameras can handle cat-5 UTP cables, and some cameras can support direct IP addresses so they may communicate data to computers. Considering both cost and usefulness

The library our institution committee has adopted the following locations to cover the maximum library area:

Issue Return Counter: The library installed a single camera in the issue return counter to prevent mischief being made to books.

Reading Room: The library installed two cameras in the reading room to deter theft and damage involving books.

Library corridor: The library installed one camera in the corridor to deter theft.Total of four cameras are connected together with a multiplexer to sharevideos

## II. SUGGESTION

Library is the heart of any academic institution as it provides its users with literature and information in the form of books, journals and other electronic media. While providing such facilities, libraries are also facing the problems of document theft and mutilation. To overcome the security problem, installation of CCTV in the libraries are highly recommended.

## III. CONCLUSION

Since it offers its patrons literature and information in the form of books, journals, and other electronic media, the library and information center is regarded as the foundation of any organization. Libraries deal with issues including material security and book theft in addition to these services. Our library has placed CCTV cameras for level security in order to address this issue. The market offers a wide range of sophisticated technologically supported CCTV camera types, including IP-based cameras, UTP-based cameras, and coax-based cameras. A library can choose any kind of CCTV system based on its advanced technological support and budget.

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