

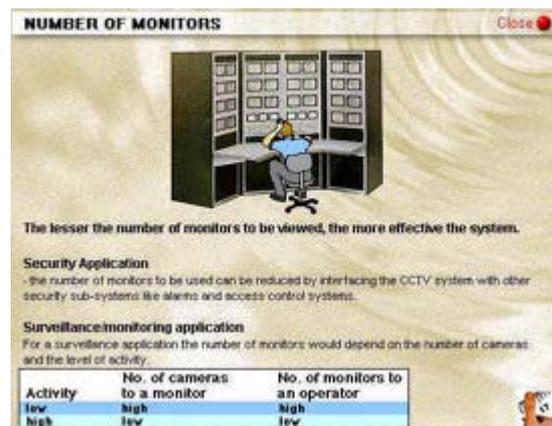
CCTV DESIGN DEBATES

Introduction

CCTV system design is a subjective matter. Different people tend to design systems differently. There is no best way or the only way to system design. No two architects will ever come up with the same design. However people with better product knowledge and experience will come up with a better system design. Some things to keep in mind while designing a system are:

CCTV system a deterrent

Many people tend to design CCTV systems with the intention of catching the person in the act. While there might not be anything wrong with this, the time taken to catch the person and then prosecute him might be quite expensive. It would be much easier if the system is designed in such a way that it deters the person from committing the offence in the first place. It would make the system more effective. Recently in a retail shop a camera system was installed. People were not aware of the cameras and the shrinkage continued. Many of the events were seen on the tape later on. It was extremely expensive to get the police involved to first catch the offender and then prosecute. When the client installed a few large monitors in prominent places in the shop. Not surprisingly, the shrinkage came down by 75%. In applications where shrinkage or theft is the problem, all attempts should be made to design a system, which will deter people from committing the offence.



NUMBER OF MONITORS Close

The lesser the number of monitors to be viewed, the more effective the system.

Security Application
- the number of monitors to be used can be reduced by interfacing the CCTV system with other security sub-systems like alarms and access control systems.

Surveillance monitoring application
For a surveillance application the number of monitors would depend on the number of cameras and the level of activity.

Activity	No. of cameras to a monitor	No. of monitors to an operator
low	high	high
high	low	low

To watch when something happens

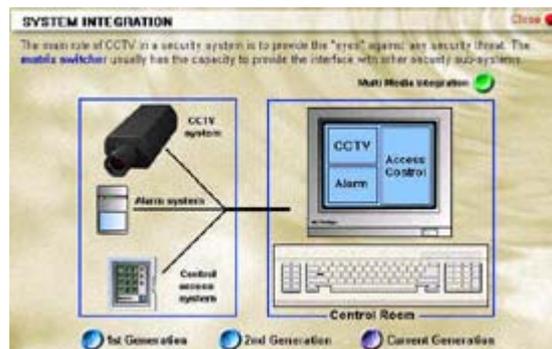
It is known that when an operator is watching the pictures on the monitors, after some time he may be looking at the monitors but he is not actually watching them. This definitely reduces the effectiveness of the CCTV system. The trend is to design systems in such a fashion that the operator only watches the monitors when something happens. This means it must be interfaced with a alarm system which will trigger a camera system when any intrusion or movement is detected. The alarm input could be a reed switch, PIR beam, pressure, video motion detector or even sound. These days even the most switching systems have alarm inputs. The more sophisticated matrix switchers have quite intelligent responses to alarms.

System integration

There is a definite trend in the market place to integrate CCTV systems with other security sub systems like

- Alarms
- Access control systems
- Fence detection systems

- Fire detection systems



Besides the reason mentioned above, CCTV provides the additional support and "eyes" to any security system.

There may be a sophisticated access control system at a site where an employee is allowed to enter the warehouse during the weekend. It is possible that he could walk away with the stock. However, if the access control system is interfaced with the CCTV system; any time he inserts the key the CCTV records the picture. In this way the CCTV supports the access control system and thereby strengthens the total security of the location.

Reducing operator interface

Another trend is to reduce the operator interface with the system. The CCTV system will become ineffective if the operator does not use the system properly. For example if a PTZ camera is supposed to be moved around by the operator regularly to see three critical doors, it could be disastrous if he does not move them around; in other words the system is dependent upon the operator. While designing the system care should be taken to reduce the operator interface. In the above example it may be better to have either fixed cameras or install a PTZ camera with pre-positioning to overcome the problem.

About the author

Jayant Kapatker is an international authority on CCTV and is the brain behind STAM InSight The Award Winning CCTV Program. This interactive multimedia contains over 14 hours of CCTV content. This series of articles have been based upon the subjects covered in the STAM CCTV – A complete review web based training course. For more information visit: www.stamweb.com or email: sales@stamweb.com