The Hidden Visor (HAWK's Eye)

Prof. Ashwini Hongal

Asst. Professor, Department of Comp. Sc., KLE Society's J G College of Commerce, Hubli.

Abstract: An advanced higher end security with cost effective and less complex system is, "The Hidden Visor". In this ultra modern age, as property crimes are more predominant technology has developed an advanced security system in order to overcome predominant & contagious crimes, this technology has been used by the researchers in a more efficient way to prevent theft. It's a methodology which uses sensors, cameras & Artificial Intelligence systems to detect, capture & forward information respectively to the concerned authorities.

INTRODUCTION

A single camera based security system which protect the valuables commodities kept in room. This system splurges around the room and records the activities and alerts the owner when any intrusion or presence is detected. The authorities can only view the footage which was alerted on the presence of intrusion. These systems consume less time help in tracking of the intruder easily in a short period of time. As and when the intruder gets detected the information about intrusion will be directed to the authorities via E-mail.

They consist of three components – sensors that detect intrusion, the camera that focuses to the point of intrusion and takes pictures and the keypad that acts as an interface with the system which allows any person to disable the system by entering the correct password.

THE DESIGN

The Hidden Visor is an advanced security system which is mainly designed to use a single camera to perform the security activities. Every personnel might have had valuables kept at his residence, a jewellery shop owner need security at night times for his property. Now, this forms a reason for security i.e. a hidden visionary. The present cctv technology has many disadvantages like multiple camera's, more cost, power consumption, and, the owner has to always view the recordings of the footage without any assurance of the theft. The Hidden Visor model can be designed using different sensors like motion sensor and vibration sensor, the motion sensor detects the motion of a human being in the particular area where the sensor is placed. Once the sensor, senses the motion or vibration it sends that information of motion to the Microcontroller. PIC16F877A belongs

to a class of 8-bit microcontrollers of RISC Architecture. PIC microcontroller is an amazing powerful fully featured processor with Internal RAM, EEPROM FLASH memory and peripherals.
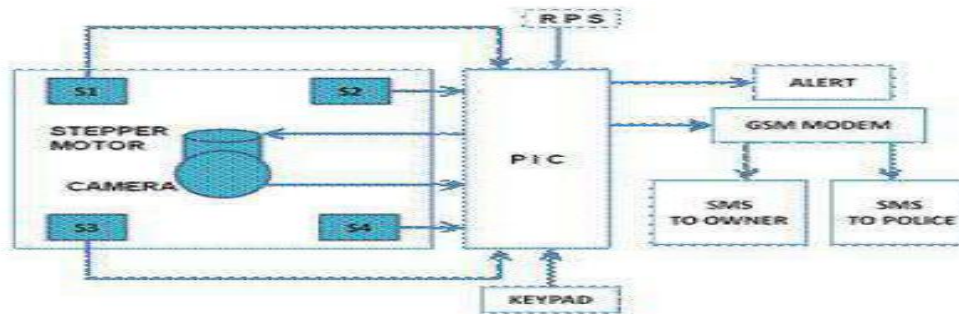
PIR (Passive Infra-Red Sensor) MOTION DETECTOR MODULE

PIR sensors helps the user to sense motion, thus detecting whether a human has moved in or out of the sensors range. They are small, economical, low-power consumer, easy to use and do not wear out. They are commonly found in appliances and gadgets used at homes or businesses. They are often referred to as PIR, "Passive Infrared", "Pyroelectric", or "Infra-Red motion" sensors. To increase the efficiency of SIP (Session Initatiation Protocol) signaling, and to maintain compatibility with external VoIP systems and soft switches, technicians have created SIP compression technology for the Hidden Visor system that reduces SIP overhead bandwidth on the over the air links and backhaul links from the Base Stations to the Hidden Visor MSCs. The MSCs do the SIP compression and decompression to maintain top most interoperability with third-party VoIP systems. This also has the benefit of making more bandwidth available for mobile data applications being carried alongside voice traffic.

WORKING

Step1: User enters the password, if the entered password is correct, then the system starts, else he is prompted to re-enter the password.

Step 2: If sensors sense any change, then an intrusion is detected. Else there is no intrusion.

Step 3: If intrusion is detected, then relay triggered, stepper motor rotates the camera starts recording and an email is sent to the user.

MODERN SYSTEMS

Today's security systems are extremely effective in preventing robbery and thefts thus being a helping hand to authorities to respond to emergency situations. The mainstay of the home security system is for sure a high decibel

siren. In most cases home security systems are monitored by large companies with multiple monitoring centers. These centers house a numerous trained professionals who are there in times of need for residences and businesses across the country. These monitoring centers also can provide support for other potential disasters such as carbon monoxide, fire, freezing pipes, and much more. Modern security systems use alarms, infrared motion sensors, digital surveillance and contemporary monitoring stations. Monitoring is extremely efficient and emergency response time for triggered alarms has improved dramatically due to advancement in technology.

CONCLUSION

The Hidden Visor security system solves numerous problems faced by the multiple camera based systems at an easily affordable cost. The biggest advantage is that wading through hours of footage of empty rooms. Installation of multiple cameras to cover a single room can be avoided. Cost required for the installation is very less compared to multiple camera based system. Good view of the video footage can be obtained as the camera rotates 360°. This work can be extended to completely eliminate the use of the microcontroller and instead use parallel port of the PC to monitor the sensors. Also advanced image processing techniques can be applied to track the intruder once his position has been identified.

REFERENCES

1. The 8051 microcontroller and embedded system
2. http://www.scribd.com/mobile/doc/84040168/invisible-eye-advance-security-system-ppt
3. http://www.seminarsonly.com/computerscience/invisible-eye-seminar-report-ppt-pdf.php