Ethernet Entrance Control Monitor

Introduction
In today’s society, the need for security has become an important issue. Many schools, businesses, and government agencies need new ways to monitor and protect their personnel and properties; however, the cost to implement new security systems can be costly. I am proposing to design an Ethernet Entrance Control Monitor (EECM) that can be quickly accessed from anywhere using the common web browsers to detect intruders. The Ethernet Entrance Control Monitor will be connected directly to Daniel Droker’s Entrance Control Monitor system. Daniel Droker’s Entrance Control Monitor will then update the EECM with current data, so the user can then quickly access the EECM on his or her existing private network using the common web browser to detect intruders. Because of these features, the EECM will be cost efficient for the user and can be quickly connected to the user’s existing private network.

Description:
The EECM will be connected directly to the I/O port of Daniel Droker’s system (M68HC12) and the user’s private network (local area network), using Ethernet and any valid IP address. After establishing connections, the EECM serves as a mini server. The EECM can be accessed using the common web browser, such as the Internet Explorer or Netscape Navigator, from any computer on the same network. However, the EECM can also be accessed from the Internet, if the user’s private network is connected to the Internet. Upon receiving a request from a web browser, an HTTP header is constructed by the EECM and transmitted followed by the HTML stored in the EECM memory to provide an updated list of all personnel currently in a room or building being monitored and displays a ‘WARNING’ message if an illegal entrance is detected. Figure 1 (page 2) shows the layout for the Ethernet Entrance Control Monitor.
**Benefits:**

The Ethernet Entrance Control Monitor allows an easy way for building security managers of small or large schools, businesses, or government agencies to monitor secured areas without having to leave their posts. Because the EECM is connected directly to the user’s existing network and required no special software, it can be implemented for the user quickly and cheaply, saving precious time and money.

**Comparison with Other Products:**

Currently, the markets for embedded systems with remote access are growing rapidly. Many remote security monitor systems can cost up to thousands of dollars and required routine maintenance. My design will be cost efficient and require little or no maintenance, once it is implemented into the user’s private network. Furthermore, the EECM does not require the user to install any new or expensive software: the user can easily access the EECM by using the common web browser preinstalled on his or her computer.

**Project development:**

Currently, I have found a few possible Ethernet development boards for my project. The actual circuit construction will start as soon as an Ethernet development board is chosen. The selected Ethernet development board would be connected directly to an M68HC12B I/O port for data transfer, so programming knowledge for the Ethernet development board and the M68HC12B is required. Using design processes and tools learned from previous engineering classes and ETEC classes from this school year, I am projecting that the project will be in its testing stage by spring quarter of 2002 and will be ready for demonstration before the end of spring quarter in 2002.
Figure 1 Ethernet Entrance Monitor Server Layout