bSecure – Computerized building security system

Client's Story

bSecure is a fully computerized building security system, comprising a large number of secure sectors, with different security levels. Each security sector is equipped with a camera, powerful speakers, an entrance or exit request button respectively and automatic rotating doors (capable of containing one person) deployed at its entrance and exit points.

Whenever a person arrives at an entrance to a security sector he may express his desire to enter the sector by pressing the request entrance button. The button then turns on and the request is then sent to the central computer which then responds by sending a recorded message to the entrance speakers directing the person to face the camera and wait for the recognition process to end. The camera begins recording and sends the images to another machine which is in charge of recognizing the face and retrieving the person’s unique identification number, hereafter the person's id. The face recognition software is a commercial off-the-shelf product. The central computer then accesses the database to retrieve the person's security restrictions. If the person is allowed access he is instructed, via the speakers, to enter the door and the request entrance button turns off. Similarly, when a person requests to exit a security level he reaches the exit doors, presses the request exit button, the button then turns on, he faces the camera and if no problems are detected he is allowed to exit. When a person exits a security sector the system verifies via its database that in fact the person is listed as having entered this security sector. The information regarding the individual's stay in the sector is recorded by the system.

There are four levels of restrictions. Each restriction level allows access to all security sectors below or equal to it. In other words, personnel with security restriction 3 may access sectors of level 1, 2, or 3 but cannot access sectors of security level 4. A person requesting to enter a security sector with a higher level of security than that which he has can only do so for a limited time, provided he is accompanied by a person with a proper security level.

Security restriction levels are assigned by a system administrator. The administrator has a console which allows him to enter new people into the system and assign
security restrictions (levels 1-4) to them. The administrator can access the system by entering his username and password. After the administrator logs on, a welcome screen is displayed with the administrator's options presented. The administrator may add a new user, change an existing user's security restrictions, or delete a user from the system. When deleting a user, the administrator may also select to add this user to the black list. When entering a person into the black list, the administrator must also provide a reason for doing so in a special comment field. Personnel that are blacklisted can not be entered into the system again in the future.

A person's details consist of his full name, address, id number, image and a list containing the security restrictions he has been granted since he was registered to the system. The list also contains the starting and ending dates each of these security restrictions have been granted and if revoked, a reason field also exists.

Once a month, the system produces a report containing detailed information about access to each security sector. The report contains the list of people that have entered the areas, the time they spent in each area, and who accompanied them (if relevant).

Whenever a security violation occurs, the administrator is notified and until he responds, no personnel are allowed to enter or exit any security sector (a situation called “lockdown”). The system also announces through the loudspeakers that the building is undergoing a security lockdown due to a breach in security. The administrator is the only one that can turn off the security lockdown and return the system to its standard state.