**Project Description**

**Fall 2012**

**A fire and security alarm monitoring system**

A large building may require an automated alarm system which monitors and controls all fire and

security alarms in the building. Normally, the building is divided into zones and a number of alarms

are associated with each zone. Alarms alert a central manned control area who may pass these on to the

emergency services or may respond personally.

Factors which have to be taken into account in building such a system are:

If the control area is unmanned and an alarm is activated this alarm should not be ignored if it is

potentially serious. Emergency services should be automatically called.

Some but not all parts of the building may be equipped with sprinkler systems or systems to shut

down electrical equipment. These should be activated if a fire alarm is confirmed. They should not

be activated if there are people in the same room.

The building may be equipped with direction indicators which illuminate the route to the nearest

exit. These should be activated when a fire alarm is confirmed. At the same time, an audible signal

should sound alerting occupiers to leave the building.

A security alarm may cause some internal doors to be locked automatically. It should be possible

to isolate complete zones by automatic door locking.

False alarms are common and it might be normal practice to have an alarm confirmed before

alerting emergency services. There are different ways of confirming an alarm. In the case of a fire

alarm, it may be confirmed by multiple sensors detecting a problem.

Develop a system to control such a monitoring system. The control panel is equipped with 2 monitors that one of them is used for activation and operation commands. The other monitor is used to display information about sensors, sprinkles, locking devices, alarms. Screens should be able to display several types of information at the same time.

The command center monitor should be very user friendly, easy to work with, and fast to operate. Simulation of sensors and other devices should include activating of several of them at the same time.

In order to make implementation straight forward use limited number of zones (5), sensors (20) and 5 of each other devices.