Josh’s Proposal (Inspired from Bijoy’s Proposal)

Customer Requirements:

FSM: A **F**ire and **S**ecurity **M**onitoring System

VERY GOOD JOSH. SOME COMMENTS MEANT TO ADD NECESSARY CONDITION TO YOUR REQUIREMENT. MUCH OF COMMENTS FOR SPARKING MORE IDEAS AND GENERATING MATERIAL. WE WANT TO HAVE A LITTLE FUN, BUT YOU ARE CORRECT IN THAT WE DO NOT WANT TO HAVE EXPONENTIAL COMPLEXITY OF CASES TO CODE, like, what if these six things are happening; maybe better, code for what if these two, maybe three, things are happening (unless we can collapse N events into 1 or 2 events based on precedence, etc…)

1. **System shall have these functions**
   1. Security Monitoring
      1. Seamless and no blind spots video monitoring in public areas, *i.e. hallways, entrance an etc. Good.*
      2. Trigger security alarm if unauthorized activity is detected on the security system itself. *i.e. unplug camera, unknown device connected and etc. Good.*
   2. Security Alarm Responding
      1. Security Alert: Immediately activate silence alarm, option to activate sound alarm Right.
      2. Security Control: Perform multiple action to control suspicious activity
         1. Some internal doors shall be locked automatically
         2. The option to isolate complete zones by automatic door locking.

Once all occupants evacuated?

* + 1. Security notification: Notify the suspicious activity to designed organization and personal, *i.e. police department, security personals Unless false alarm, maybe some mechanism like video facial recognition or tracking badges with geo-location or something will be able to confirm not false alarm; internal security could always check it out…just need some way to not call emergency if false alarm.*
  1. Fire Monitoring
     1. Monitor fire stages maybe correlate to number of activated sensors
        1. \_Normal: No indication of fire has been discovered.
        2. \_Fire Watch: An indication of fire has been discovered
        3. \_Fire Alert: An fire has been confirmed  
           *(Please see Pg. 2 “Normal activities under different fire stages)*
     2. Sensing if there is people we assume we have a way to do this
  2. Fire Responding
     1. Fire Alert: Immediately activate sound alert, illuminate emergency light
     2. Fire Control: Perform multiple action to control fire
        1. Normal: Actions to control fire in general area(s)
        2. Special: Actions to control fire in special designed area(s), *i.e. Archives room, computer database room and etc.*
     3. Fire notification: Notify the fire to designed organization and personal, *i.e. fire department, security personals*

1. **Function Controls**
   1. All functions shall be automatically/semi-automatically controlled.

I suggest that at some point automation takes precedence, as in the case of way too much activity for humans to process and neutralize. Also, this saves money because do not have to hire super expert security team – they can all be flunkies. The only manual override is setting self-destruct sequence by designated local authority that may not be terminated.

* 1. Shall be able to manually control by authorized personals.
  2. Only higher authorities *i.e. supervisor, fire department, police department* shall be able to disable or downgrade an alarm.
  3. In the event where security and fire alarm are both active, consider fire alarm higher priority. Criminals could use fire as misdirection, in order to sneak into vault area and steal all the diamonds. Also, interloper could be suicide bomber with tactical nuke – more dangerous than fire.

1. **Without sacrificing the quality, budget shall be as low as possible**

**Yes, we evac and control until emergency units arrive.**

1. **Appendix**
   1. Normal activities under different stages
      1. Normal: No indication of fire has been discovered.

Time for smoke break. : )

* + 1. Fire Watch: An indication of fire has been discovered
       1. No fire responding system(s) *i.e. sound alarm, water sprinkler and etc*. shall be activated.
       2. Shall immediately notify the FSM staff on system monitor with details
       3. Fire watch light shall be illuminate in the corresponding area(s)
       4. Shell automatically activate fire alert within a reasonable time.

Yes, if cannot rule out alert within N minutes, then activate all evac and control measures, include call emergency.

* + 1. Fire Alert: An fire has been confirmed
       1. Shall immediately activate sound alert, illuminate emergency light and set elevators on “fire mode” in all areas. Maybe all zones have stairs?
       2. Shell turn off ventilation system in corresponding areas
       3. Notify fire department and security personals.
       4. In designed area(s), the system shall lock the door and activate gaseous fire suppression system([Wiki](http://en.wikipedia.org/wiki/Gaseous_fire_suppression))   
          *(Specific delay time allowed for people to get out when there is people inside)*
       5. The option to isolate complete zones by automatic door locking.
       6. Shall shut off electricity and activate sprinklers in general area(s)   
          *(Specific delay time allowed for people to get out when there is people inside)*

I get ahead of myself. I was thinking anyway, that instead of us simulating fires and infiltrations, which requres code, we let Dr. Zand create threat scenario i.e start fires and instantiate intruders, which may require less code. Then we code for response to threats IN AUTOMATIC MODE.

Otherwise we have to code threat simulation as well as automatic mode (double simulation) or interactive mode (Dr. Zand responds to threats.)

I think requirements i.e. the bulk of our code all focus on evac, threat monitoring and threat control. So we are in control of designing and coding the actual requirements. We save time by making Dr. Zand be user and push a few buttons to simulate threats, so we write no simulation code…

What do you all think? Or, at least think about it.