

CS453/CS553

Fall, 2017

Safety Monitoring

You and your teammate work for the Very Important Company. You have been asked to place sensors around the company, to monitor safety issues. Your initial task is to monitor the ground floor of the main offices of the company. All data has to be received at the Very Important Company central computing facility, located in Olin B. King Technology Hall on the UAH campus in Huntsville, AL. In order to save the cost of expensive networking equipment, you will use the Internet to transfer your data. Since you have recently learned .NET remoting, you will use .NET remoting as your interconnection medium.

You will employ three different kinds of sensors, one for doors, one for windows, and one for floors. The door sensors will return values of open, closed but not locked, closed and locked. The window sensors will return values of open, half open, closed, closed and locked. The floor sensors will return weights, in floating point, between 0 and 1000 pounds.

There are two rooms in the Very Important Company main office: receptionist room and Very Important Person room. In the receptionist room there is an entry door but no windows. In between the receptionist room and the Very Important Person room there is a door. There are two windows in the Very Important Person room.

The floors of each room are divided into front and back. There is a separate floor sensor for the front of the room, and a separate floor sensor for the back of the room.

You should have separate servers for windows, for doors, and for floors.

Your client will read the sensor values from the servers and will display them in a readable format. Each sensor value will be read separately. You will have to tell the server which sensor you want to read now. That is, you will not read all sensors at the same time, you will read only the one you want at each separate time.

For example, your client will tell the floor server to read the floor sensor value now for: Receptionist room, front. Then your client will tell the window server to read the window sensor value now for: Very Important Person window number two. And etc.

To turn in:

1. Your team will provide a demonstration of your working software.
2. Each member of the team will be asked questions related to the working of the software.
3. All Source code, in a listing (printout)
4. All source files on a CDROM labeled with the names of team members

Grading

Connects from client to at least one server	20 points
Window Sensor+data sent+data returned	20 points
Door sensor+data sent+data returned	20 points
Floor Sensor+data sent+data returned	30 points
Sufficient Comments	10 points