

Lab 11

Goals:

- Gain experience with OO Design patterns, especially the Observer pattern.
- Gain experience with the Model-View-Controller “design pattern”
- Practice with Java’s Observable class and Observer interface

Using the Konqueror browser, go to the course web-page: <http://www.cs.uni.edu/~fienup/cs062s06> and click on the Lab11.zip link and "Save to disk" in the cs2 subdirectory created in lab 1. In a shell window, change to the cs2 subdirectory. Use the “ls” command to list the files in the directory and look for the file "Lab11.zip". Decompress the "Lab11.zip" using the command "unzip Lab11.zip", then change to the Lab11 subdirectory.

Compile and run HeartBeatMain.java. (There is a headphones jack under the gray flap in on the front of the computer if you want to hear the heart beat.)

Your task in lab today is to make the following improvements to the HeartBeat MVC application:

- a) Change the layout manager “strategy” in the frames to be either BorderLayout or GridLayout. (Make sure that this also fixes the window size(s) so the whole text of Button labels and window titles can be seen.)
- b) Currently the HeartBeatMain class is both the main application and the view causing the sound of the Heart Beat. Decouple these into separate classes: HeartBeatMain and HeartBeatSoundView. The HeartBeatSoundView should have a single Button to control that “view” which toggles between sound on and sound off. **This button should only control the view, i.e., it should not effect the model.**

Near the end of the lab, raise your hand and demo your best attempt to complete Lab 11 to the TA (Patrick) or instructor.

For extra credit:

- c) Add a new view that provides a simple graphical view of the heart beat. You can be creative here to decide what to display.
- d) Add a new controller to “defibrillate” the heart model. Unfortunately, the heart model was not designed for this, so it will require some refactoring to allow it to be restarted.