

CMSI 370

INTERACTION DESIGN

Fall 2007

Assignment 1101

Alright, time to work on a Swing program with some genuine functionality, which will also teach you a little bit about usability testing.

Not for Submission

Read Chapter 7 from Shneiderman/Plaisant.

For Submission

You should each find a *menus* directory on your respective *homework/cmsi370* CVS depots. We'll use this *menus* code in two ways for this assignment.

Menu Selection Experiment

Use *menus* to conduct an efficiency and error rate experiment among three menu styles: pull-down menus from an arbitrary location, pull-down menus from the top of the screen, and pop-up menus at or near the current mouse location.

Perform a series of menu selection tests using *menus*, gather the resulting data, and draw a conclusion about the relative efficiency and error rates of the three types of menus. A sample menu setup is included, but do feel free to change that menu to your liking (or even to test different menu fixtures).

Work on this as a group, and involve as many people as are willing to participate. Submit the data and your analysis of the data on hardcopy.

Implementation Note As written, pull-down menus from the top of the screen can only be achieved by running *menus* on Mac OS X, with the *apple.laf.useMenuBar* system property set to "true" (with the double quotes) via the *-D* command line switch or any other property-setting mechanism.

User Interface Improvements

Implement the following improvements to the *menus* user interface. You may work on this in groups of any size, but *make sure to commit the new code in each of your CVS repositories*.

- Convert the session collection display within the subject view from a JList to a JTable
- Implement export to a text file, including a dialog box that appears to request the export file's name and location

- Change the button bar at the bottom into a draggable and detachable toolbar (i.e., JToolBar)
- Add support for multiple test subjects: show a subject list first, allowing the user to add or remove subjects; a user can then "open" or select a subject to show that subject's view
- Make sure that Open Session only produces one session data window (i.e., if a session data view is already open for that session, just bring that window to the front)
- Implement a double-click, such that double-clicking on a session does the same thing as selecting that session and invoking Open Session

How to Turn it In

Submit the results of your menu selection experiment as a group report on hardcopy.

Commit your improved *menus* code to your respective *menus* directories in CVS.

Extra Credit

You will get extra credit if your new version of *menus* includes one or more of these user interface enhancements:

- *Cross-platform border menu* — As mentioned, top-of-the-screen pull-down menus can currently be accomplished only on Mac OS X using the *apple.laf.useMenuBar* system property. Make this capability completely cross-platform.
- *Customizable menu fixtures* — Implement a mechanism that allows the menu fixture (i.e., the set of menus used for testing) to be customized, such as through an external file or a built-in menu fixture editor.