Interactive GUIs

3-9-2011

Opening Discussion

- Questions about the assignment?

- Minute essay comments:
  - GUI ideas
    - Class schedule maker/tester
    - Viewing physics simulations
    - GUI displaying your spring break activities
    - Something easy
    - GUI for a website
    - Alternate sports stats
    - Concert ticket reservations
    - Ray tracing geometry editor and viewer

More

- Music GUI
- Text adventure in a GUI

- GUIs seem to have lots of typing.

- Is there a panel type where East and West behave the way North and South normally do? Can you make your own panel types?

- Adding pictures/icons/symbols to a GUI.

Menus

- The frame has a MenuBar.

- Contents of a MenuBar should be Menus.

- Menus can hold the following:

  - MenuItem

  - Menu

  - CheckMenuItem

  - RadioMenuItem

  - Separator

Interactive GUIs

- Last time we learned how to build a GUI with components.

- Our GUI wasn't interactive though.

- Buttons and MenuItems are easy because we give them an Action.

- Simple read model of console apps is insufficient.

- Need a way to deal with input from many sources.

Publisher/Reactor

- The basic model employed by scala.swing is Publishers and Reactors.

- A Reactor can listenTo events from a Publisher.

- Events are in scala.swing.event.

- To stop listening, set yourself to be deafTo.

- The Publisher can be the component or an object in the component.

Partial Functions

- Scala has a construct called a partial function. It is a function that only works on some inputs.

- The brief syntax for them is like a match with no match. So it has curly braces with cases in them.

  - {

    - case 1 => doOption1()

    - case 2 => doOption2()

    - ...

  - }

Events/reactions

- When a Reactor is listening to a Publisher, it needs to define reactions.

- You can add PartialFunctions into the reactions of the Reactor.

- They should respond to the events you are interested in.

  - reactions += {

    - case e:ActionEvent => ...
    - case e:SelectionChanged => ...

  - }

Editing Run Info

- Let's use this new knowledge to make it so that we are really editing our running information.

Minute Essay

- Questions?
- What are your plans for Spring Break?