Administrivia

- Reminder: Homework 6 due today.

- Homework 7 to be on the Web tomorrow. I will send mail.

Slide 1

GUIs in Scala — Recap/Review

- GUIs in Scala can be built from predefined "components", organized using "containers".

- Code is often short if somewhat obscure.

- Getting layout just right is (my opinion!) often a pain. Documentation in Scala API is (again my opinion) quite sketchy. Underlying Java libraries *much* better documented, but it may not be trivial to figure out how to relate that to Scala code.

Slide 2

GUIs in Scala – A Few More Details

- Can easily add "mnemonics" (keyboard shortcuts, sort of) to components.

- Can also add "tooltip" text.

Slide 3

"Custom Components" in Scala

- As mentioned earlier, predefined components can do a lot, but not everything.

- If you want something else, define a "custom component" — a `Panel` that includes code that defines its appearance and behavior.

Slide 4

Custom Components — Appearance

- Basic idea — provide a `paint` method that says what to draw, using Java 2D graphics library.

- `repaint` to update.

Slide 5

Graphics in Scala

- Based on Java 2D graphics.

- "draw" and "fill" methods draw basic shapes and text.

- "set" methods change settings (color, line width, etc.).

- `ImageIO` provides ways to read image from file, write back to file.

Slide 6

Custom Components — Behavior

- mouse and keys objects generate many kinds of events (mouse pressed, mouse moved, key pressed, etc.).

- Use listenTo to say which events you want to process, and reactions to define processing.
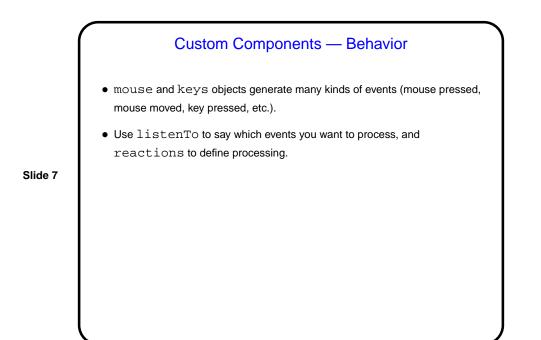
Slide 7

Animation in Scala

- Timer class provides a way to repeat an event at intervals.

- This allows for simple animation.

Slide 8

Minute Essay

- None really — sign in — unless you have questions we should try to answer next time?

Slide 9