

CS1007 lecture #18 notes

tue 12 nov 2002

- news
- GUIs
- events
- reading: ch 9.6-9.8

GUIs (1).

- Graphical User Interface
- topics:
 - components
 - containers
 - layout managers
 - events
 - listeners

GUIs (2).

- *components*
- a component is a building block of any GUI
- here are some examples:
 - Label
 - TextField, TextArea
 - PushButton
 - CheckBox
 - RadioButton
 - ComboBox
 - List
 - PulldownMenu
 - ... and many more!!

GUIs (3).

- *containers*
- a container is a special component that can hold other components
- here are some examples:
 - Applet
 - Frame
 - Panel

GUIs (4).

- *layout managers*
- a layout manager describes where the components are laid out within a given container
- you need to “set” the layout manager for each container
- you can “nest” containers (and their layout managers)
- **BorderLayout** — simplest layout manager
- looks like this:

north		
west	center	east
south		

events (1).

- an *event* represents some action on the part of the user
- user-generated events are entered either through the *mouse* or the *keyboard*
- examples:
 - mouse pressed
 - mouse released
 - mouse clicked
 - mouse entered
 - mouse exited
 - mouse moved
 - mouse dragged

listeners (1).

- a *listener* is a part of a program that captures these events for processing in the program
- frequently, a *listener interface* is created
- for example, `java.awt.event.MouseListener`:
 - `void mousePressed( MouseEvent evt );`
 - `void mouseReleased( MouseEvent evt );`
 - `void mouseClicked( MouseEvent evt );`
 - `void mouseEntered( MouseEvent evt );`
 - `void mouseExited( MouseEvent evt );`
- what is a `MouseEvent`?
 - `Point getPoint();`
 - `int getX();`
 - `int getY();`
 - `int getClickCount();`

listeners (2).

- `MouseListener` examples:
 - `Dots.java`
 - `Dots2.java`
 - `Dots3.java`

listeners (3).

- another example, `java.awt.event.KeyListener`:
 - `void keyPressed( KeyEvent evt );`
 - `void keyReleased( KeyEvent evt );`
 - `void keyTyped( KeyEvent evt );`
- what is a `KeyEvent`?
 - `char getKeyCode();`

listeners (4).

- `KeyListener` examples:
 - `Dots4.java`
 - `Dots5.java`