# Lecture 15:
# More GUI Components

CS 51G

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# Announcements

- Frogger Questions?

# Handling Events

- Two different menus, two different approaches:
  - http://www.cs.pomona.edu/classes/cs051G/demos/DoubleDrawing/DoubleDrawing.grace
  - Shape menu only used when new object constructed
  - Color menu triggers action immediately
    - colorMenu.onChangeDo { evt: Event -> ... }

# Organizing GUI Components

- Can put components in Containers
  - Start with emptyContainer and append components
  - Can even put containers in other containers!
  - Example:
    - http://www.cs.pomona.edu/classes/cs051G/demos/FallingBall/FallingBall.grace

# More Components

- User enters values:
  - TextField: User enters string
  - NumberField: User enters numbers

- Program displays text to user
  - TextBox

- Numbers to Strings and back:
  - 47.toString
  - "47".toNumber

# More Examples

- See "Using GUI Components in Grace" for how to construct each kind of object.

  - http://www.cs.pomona.edu/classes/cs051G/demos/ColorMixer/ColorMixer.grace

  - http://www.cs.pomona.edu/classes/cs051G/demos/Interesting/Interesting.grace

# Responding to Key Presses

- Can tell application to pay attention to key presses.

  - onKeyPressDo{keyEvt: KeyEvent ->
    // do something
    }

- Can ask KeyEvent for code of key:

  - http://www.cs.pomona.edu/classes/cs051G/demos/KeyDemo/KeyDemo.grace

- How can you control frog with arrow keys?

  - http://www.cs.pomona.edu/classes/cs051G/demos/MoveBoxWKey/MoveBoxWKey.grace

# Homework

- 10.8.1

- 10.8.3

# Questions?