

Computer Science I

CMPE/CSCI 1370 - 01

Today

925-945	Lab review
945-10	big-bang and drawing a picture
10-1010	Counting down
1010-1030	Responding to key presses

Lab review

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Project 1: Happy Pusheen

- Display Pusheen and happiness level
- Countdown for happiness level
- Respond to key presses

Stoplight

- Display light
- Change light based on countdown
- Press a key to pick a light

~~Stoplight~~ Countdown

- Display countdown
- Decrease number displayed once/second
- Restart on keypress

~~Stoplight~~ Countdown

- Display countdown
- Decrease number displayed once/second
- Restart on keypress

Interactive programs and **big-bang**

- Manage state (of the "world"): set initial state, track state changes
- Render state
- Change state in response to events: *event handlers*

Interactive programs and **big-bang**

Discuss: Pick a popular program and answer these questions:

- What "state" of that program needs to be managed?
- How is state rendered?
- Which events change state?

big-bang

- Set initial state (world value)
- Render state

Consider a program that has a number world value and a function render that displays the state of the world. Which of the following are valid function definitions for render?

A. `(define (render w) (+ w 1))`

B. `(define (render w) (circle w "solid" "green"))`

C. `(define (render w) (text w 30 "blue"))`

D. `(define (render w) (text "Hello" w "blue"))`

E. More than one of the above

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Events

Any "stimulus" or input that the world responds to

Event handler

Function that describes how state changes in response to an event

Events

- clock ticks
- key presses

Consider a program that has a number world value. What are the inputs and outputs of a valid handler for clock ticks?

A. Number -> Number

B. Number -> Image

C. Number Number -> Number

D. Image -> Number

E. More than one of the above

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Events

- clock ticks
- key presses

Vocabulary words:

- world
- state (world value)
- event
- event handlers
- clause

BSL keywords/operations:

- big-bang
- to-draw
- on-tick
- on-key

Attendance!

<http://bit.ly/1370-1rollcall>