

CSI 32 LECTURE NOTES (Ojakian)

Topic 8: TKinter Events and Bindings

OUTLINE

(References: See Webpage)

1. Events and Binding
 2. Various kinds of events
 3. Event object
 4. Using Lambda
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1. Example: Toggle Button

- (a) Without using a class

PROBLEM 1. *Modify the last program so that the text appearing in the button toggles, with nothing printed to the console.*

- (b) Using a class

PROBLEM 2. *Modify the last program so that it is object-oriented (and allow it to toggle between any two given strings). Do it in a Has-A Button way and a Is-A Button way.*

2. Various Events

Don't forget the quotes!

PROBLEM 3. *Modify the last program with various events (noting that you might need to focus before an event is recognized):*

(a) “ < Button - 3 >”

(b) “ < Return >”

(c) “ < Key >”

(d) “ < Enter >”

(e) “ < Leave >”

(f) *Etc....*

3. More about the Event class

- (a) Whenever an event occurs, an Event object is sent as the one input to the appropriate function or method (called the callback or event handler).
- (b) Some information contained in the Event class:
 - i. `.widget` - the widget on which the event occurred.
 - ii. `.char` - character string for certain events involving key
 - iii. `.x` and `.y` - x and y coordinates within widget
 - iv. `.time` - a relative time indicator (measured in milliseconds)
 - v. Etc...
- (c)

PROBLEM 4. Write a program that opens a window and simply waits for left clicks. At each left click it prints the following to the console: the distance traveled since the last click and the time since the last click.

4. Using Lambda expressions

Passing more arguments to callback using lambda.

PROBLEM 5. Create a function for squaring using a lambda expression.

PROBLEM 6. Add a quit button to Problem 4 (by passing in root and using destroy).

5. Entry Widgets

- (a) Create with Entry
- (b) `.get()` to get current string
- (c)

PROBLEM 7. Write a program that has two text entries: One for last name and one for first. It also has a button "Show". When it is clicked the current contents are printed in the GUI using a Label widget.

Use Lambda expressions as needed.