

Lecture 4 Notes

6:30-9:30PM, 01 July 2015

Today will be a practicum attempting to cover most of the below Xcode development questions and any other that come up.

Struct vs. Class

Strict definition: Struct is value type and cannot be subclassed or inherit

-- stored properties of a struct can mutate but must be explicit with 'mutating' keyword

Classes are the opposite (reference types)

Practical difference:

Structs: small data containers perhaps with a few computed properties

Efficiently passed by value

Mutation is discouraged

Classes: complex objects

inefficient to pass by value,

mutate frequently over time, participate in your object oriented design

But BOTH can implement protocols!

Starting a single-view iOS Project

Subclassing UIViewController

Navigating among StoryBoard and project source files

Showing Assistant editor of a ViewController

Showing the object hierarchy

Using the Object Palette (search)

Using blue dotted guides for element placement

Adding missing constraints automatically after element guided into place

Editing and adding various kinds of constraints

horz space, vert space, aligning tops/bottoms/centers/middles, leading/trailing

Showing how constraints can force one element to “follow” another

Checking over and correcting constraints

Updating frames once constraints are corrected

Constraints within a single object (constraining its proportions)

Updating frame after editing UILabel text

Creating an Action connection: naming it, what the ‘sender’ means

Creating a Reference Outlet

Integrating actions and outlets to get the fundamental feedback loop: round trip through the “model” (stored variables)

Verifying the outlets are configured correctly (right-click on element, dot in circle next to code ref)

Seeing an incorrectly configured outlet crash the program with key-value coding error

Seeing an incorrectly configured action crash the program with unrecognized selector error

Removing incorrect outlets / actions and redoing them easily

Working with the Scene hierarchy for more precision

The destructive power of missing curly braces

Using auto-indent to help with missing curly braces

Separating internal (non-UI) logic into a Model class

Setting up a textField as a simple delegation example

Setting up a UIPickerView as a more advanced delegation example

Setting breakpoints in code: watching values change, stepping in, stepping over, continuing, deleting breakpoints

Discussion of ARC (as time allows)

Review of “Game of Life” code (as time allows)