

# Mobile Development: iOS

CS 196 – 25 DotStar [Lecture M3]

## XCode

Xcode is an **integrated development environment (IDE)** used to develop software for **OS X** and **iOS**. Essentially, this is for Swift and Objective C, what Eclipse is for Java.

## The Basics

With the storyboard - Xcode's visual interface editor, designing the basic interface and flow of an application is relatively simple.

By clicking the circular button on the bottom right section of the window, you can access many pre-built elements to utilize in your app, including:

- Buttons
- Tables and Cells
- Calendars

These, along with several types of predefined app pages can simply be dragged and dropped into the necessary location.

In order to make a **transition** from one page to another (this is called a **segue**), just click on an element (such as a button, cell, or image), and drag from that element to the corresponding screen while holding **control** (not command).

Additionally, the design can be changed by clicking on a page or element, and then the middle two buttons on the window's top right section. This will allow you to change an element or page's color, transparency, default text, and even change its appearance to that of an image you have added into the application.

In order to test the application's functionality, and see what it will look like on a device, click on the "play" button at the top left of the window to run it an emulator. The emulated device can be changed by clicking the device name (e.g. "iPhone 6") and selecting one of the many devices form the menu.

## Some Helpful Tricks

### Code Snippets

If there is a piece of code that you anticipate having to type (with certain variations) several times, you can create a code snippet by:

- Pressing `command+alt+^+2` (this will open the code snippet library pane)
- Begin typing the code into Xcode's editor, inserting placeholders such as `<#token#>` for values that will be changing in different implementations of the snippet
- Highlight and drag the code to the library pane
- Name the snippet and define a "completion shortcut", a series of characters that, when typed, will automatically be replaced with your snippet

### Behaviors

Behaviors can change how Xcode acts when certain events take place. Double clicking an open tab in Xcode allows you to assign it a name. These named tabs can be utilized when defining behaviors. For example, if you have named a tab "debugger" (which tab would receive that name is pretty self explanatory), you could define a behavior that causes the debugger to open anytime your app pauses in a simulator. In order to configure behaviors, go to Xcode's preferences window (accessed through the "Xcode" menu item on the top left, or by pressing **command +,**

Apple's tutorial to getting started with Xcode is very informative and can be found here: <https://developer.apple.com/library/ios/referencelibrary/GettingStarted/RoadMapiOS/FirstTutorial.html>

Xcode can be downloaded at:

<https://developer.apple.com/xcode/downloads/>

**Note:** Xcode can only be downloaded on run on a Mac