**Topic: Handling UI Events**   
(Previous topic: Into to Mobile Development)

Intro

* See how everyone is doing on the lab assignment.  
  Should we delay things by one week?
* Discuss the code review process and due date

Operating Systems, APIs, Libraries, and Frameworks

* Every operating system has an API, this is a “low level” API
* For difficult operations like graphics, there are libraries: Win32 / DirectX, OpenGL on Windows, Cocoa / AppKit on Mac OS
* For building apps there are frameworks that consist of a collection of libraries that implement a particular architecture for building an app: like WinForms or WPF on Windows, or the iOS SDK
* Xamarin provides a way to insert the .NET library and C# run-time on top of the IOS SDK.  
  <https://developer.xamarin.com/api/root/ios-unified>

App Architecture

* MVC
  + Model: A class or set of complex classes that just hold data
  + View: Just presents the information (like a web page)
  + Controller: Responds to user input and does processing
* Advantages of MVC
  + Reduce dependencies
    - View 🡪Model 🡨 Controller  
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  + Facilitates changes (bug fixes, new features)
  + Separation of concerns (simplifies coding)
  + Facilitates reusable code and cross-platform development (only the View is non-portable)
* Outlets and Actions
  + Outlets are properties that contain references to UI objects. You work with these in the Controller code instead of working directly with UI objects.
  + Actions are the event handlers.
* Storyboard– look at it for phoneword
  + ViewController- loads and unloads content view hierarchies
    - Screen
      * Content View Hierarchy
        + Root view

Subviews

Events

* Actions vs. .NET style events
* Look at event handlers in PhoneWord, ViewController.cs, ViewDidLoad
* Create events using the events tab of the properties dialog in the storyboard
* FirstResponder, responder chain – events bubble up the hierarchy to the screen
  + Example in PhoneWord,
  + Example in ControlFun, Ch. 4 of the textbook