**Topic: Into to Mobile Development**   
(Previous topic: None)

* Introduce myself
  + Why I like to program
  + Job history
* Student’s introduce themselves
  + What programming languages do they know? How many know C#?
  + Have any done mobile app dev before? (Android, App inventor, Unity, etc.)
  + What degree and/or certificate are they pursing?
* Why do mobile development?
  + It’s fun!
  + Mobile apps deliver a personal, immediate experience to users
  + Mobile app developers are in demand.
    - Search on Dice.com 1/9/16 – out of 586 Software Engineer jobs in Oregon, 578 were asking for iOS app development skills.
    - Companies develop mobile apps:
      * As part of a bigger system or eco-system:
        + Banking
        + Book readers
        + Social media
        + Cloud storage
        + Bus schedules
      * As a product themselves
* Differences between desktop and mobile development
  + Low power devices require apps that use less memory and processor power and hence less battery.
  + Small screens and a wide variety of form factors and screen rotation require flexible UI designs
  + Older devices: Lack of true multi-tasking requires different app life-cycle management
  + A wide variety of sensors can be used by the app.
  + Connectivity to the Internet is not always assured- apps need to handle intermittent connectivity.
  + Users have higher expectations for responsiveness of the UI.
* Development environments
  + iOS: Swift or Objective C using X-Code
  + Android: Java or Kotlin using Android Studio (intelliJ)
  + Cross-platform using an app engine: Unity, Flutter
  + Cross-platform using HTML5 & JavaScript: Ionic, Apache Cordova or React Native
  + Cross-platform native code: Xamarin. All code except the UI is portable across Windows, Linux, Mac, iOS, and Android
* Review Syllabus
* Discuss weekly cycle of assignments
* Break
* Build a simple app with just a “hello” label.
* iOS 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
* Development Environment for Xamarin iOS
  + Xamarin Studio or Visual Studio
    - Based on MonoDevelop (Windows, Linux, OS-X)
    - Uses Mono framework, Open-source port of .NET
    - xCode and iOS SDK required
  + Testing
    - Simulator
    - Actual device
* Build Hello iOS (Phone Word) and run it on the simulator (we’ll use iPads later)
* Look at the lab assignment
* Talk about licensing
* University license lets you:
  + Run apps on a simulator or device
  + Share apps with others in the class
* Developer license lets you:
  + Deploy beta apps via ITunes and TestFlight
  + Put apps in the app store
* Apple Developer web site: <https://developer.apple.com>