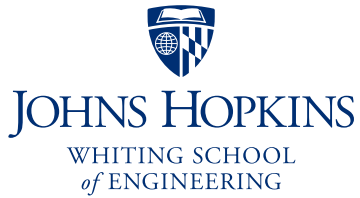
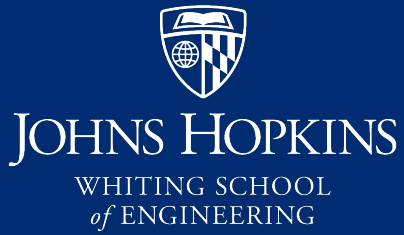
Johns Hopkins Engineering

605.487 – iOS Development

Introduction





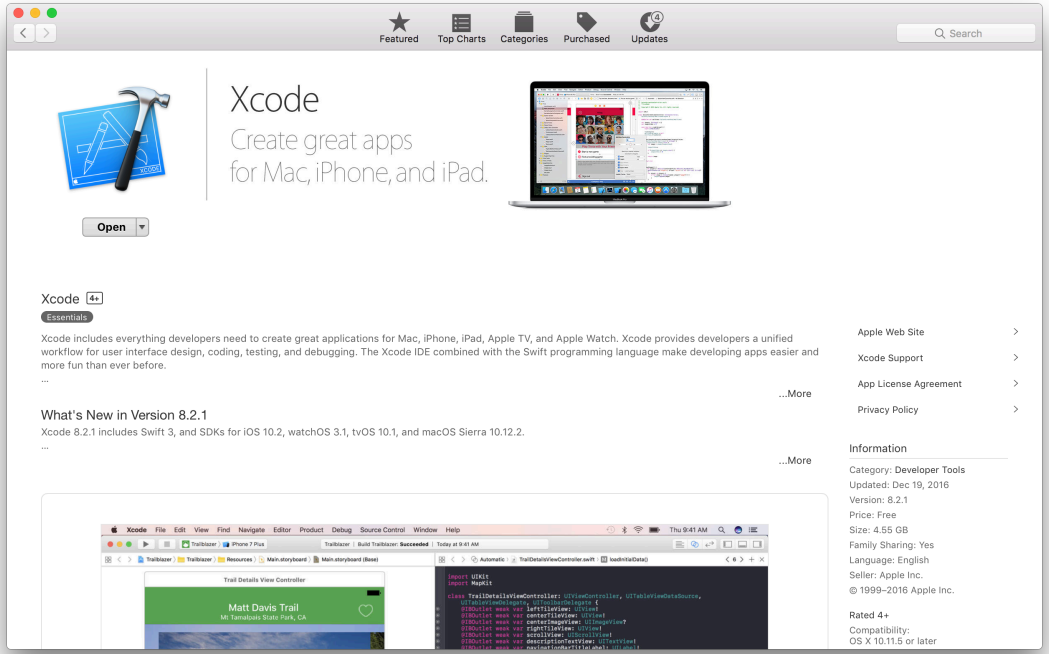
Setting up your Development Environment

Assignment Requirements

- All projects must be completed in Xcode 9.2
  - This means NO alternate methods like Appcelerator
- All projects will target iOS 11.2
- You must have a system running OS X 10.12.6 or above
- There is no hardware requirement - we'll run everything from the simulator
- A zip of your project folder will be submitted for homework assignments
  - If you use a framework, make sure those are included in the zip
  - If you add a file to the project, be sure to copy it into the project

How to get Xcode

- Xcode is a free download from apple and can be downloaded from the App Store. You'll need an Apple ID (which you probably have already).



Important!

- Don't upgrade your tools mid-semester. This can cause problems if APIs change.
- I will stay on Xcode 9.2 (and the corresponding version of Swift), so if you change versions, you code may not compile and your grade will suffer

Signing Up For a Developer Account

- If you have an Apple ID already, signing up to be a developer is easy - and free! In fact, you don't have to do anything else! If you use that Apple ID to sign into Xcode, it will manage all the proper certificates and provisioning profiles for you behind the scenes. If you don't have an Apple ID already, you can go here:
  - https://appleid.apple.com
- In this class, we'll be going one step beyond the normal process of development. I have signed up for the iOS Developer University Program, which allows all of the students in the class to be part of a development team, and share projects and resources - which will come in handy later in the semester for your final projects. To help with this:
  - **EMAIL hococoder@gmail.com with your Apple ID and I will send you an invite to the course team!**

App Development Log

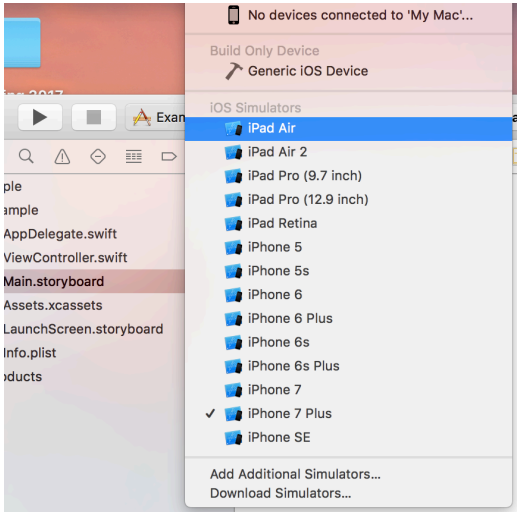
- One of your assignments through the semester will be the completion of an App Development Log, which will be used to define the scope of your final project later in the semester.
- We will be using an instance of the Atlassian suite of tools that I have setup at the following URL:
  - http://www.hococoder.com/atlassian
- **You will need to make an account here, and use the issue tracker, JIRA to capture the requirements and design of your app.**

The Simulator

- For the examples and assignments in this class, we'll be using the built in Simulator in Xcode to run and test our applications. The simulator can emulate many of the features of an actual device, with the exception of:
  - Motion Support (accelerometer and gyroscope)
  - Audio and Video input
  - Proximity Sensor
  - Barometer
  - Ambient Light sensor

- There are some other API restrictions that can be found here

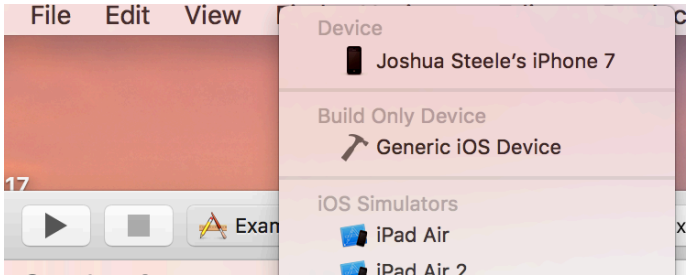
- Simulators for many devices come preinstalled in Xcode (and more can easily be added for backwards compatibility).



Testing on Devices

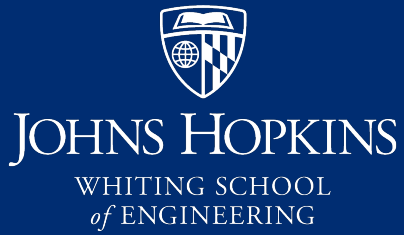
- Testing on a device is almost as easy as testing on a simulator. Simply hook up your device to your development computer via a USB cable, and your device becomes an option in the run dialog in Xcode.

- Testing on devices gives you a much more real world environment to explore. The memory on a device, for example, is limited compared to the memory that the simulator can provide, so you often see memory pressure problems occur on the device, even though they did not appear on the simulator. Before deploying your apps to the App Store, be sure to test on a device (as many as you support, if possible!)



Version Control

- I HIGHLY recommend using version control when programming
- Subversion or Git can be used with XCode
- SVN and Git come installed as part of the dev tools, and when starting a new project, XCode can make a repo for you in Git
- Any external repos (Bitbucket, for example) must be marked PRIVATE
  - Bitbucket is free for private accounts (I use this primarily); Github is free with an .edu account
  - If I find you have a publicly available repo with homework code, you'll fail that assignment
  - I am more than happy to look at homework code if you have problems. My email on both Bitbucket and Github is hococoder@gmail.com.



Discussion

Week 1 Discussion

- During tonite's discussion, think about the following questions – we'll discuss them near the end of the lecture:
  - What are of your favorite features in the languages you currently develop in?
  - What analogies exist in Swift?