

Syllabus

version 1.7

Instructors

Dan Armendariz
danallan@mit.edu

David J. Malan
dmalan@harvard.edu

Description

Today's applications are increasingly mobile. Computers are no longer confined to desks and laps but instead live in our pockets and hands. This course teaches students how to build mobile apps for Android and iOS, two of today's most popular platforms, and how to deploy them in Android Market and the App Store. Students learn to write native apps for Android using Eclipse and the Android SDK, to write native apps for iPhones, iPod touches, and iPads using Xcode and the iOS SDK, and to write web apps for both platforms.

Prerequisites

Prior programming experience in any object-oriented language and familiarity with HTML is assumed. Distance students must have access to an Intel-based Mac running Mac OS X Snow Leopard version 10.6.4 or later. Local students will have access to Macs on campus as needed.

Expectations

Students are expected to attend or watch all lectures and sections and to submit all projects.

Grades

Your final grade will be based on your performance on the course's projects. Projects will be evaluated along the axes of correctness, design, and style.

Website

The address of the course's website is:

`https://www.cs76.net/`

Staff

To contact the staff, email:

`help@cs76.net`

Lectures

Lectures take place on Tuesdays from 5:30pm ET until 7:30pm ET in Northwest Science B103 at 52 Oxford Street. Lectures are filmed and posted to the course's website within 72 hours in streaming and downloadable formats (MP3 and MP4).

A schedule of lectures, subject to change, appears below.

Lecture 0: HTML5

Tue 1/25

Lecture 1: HTML5, continued

Tue 2/1

Lecture 2: Android

Tue 2/8

Lecture 3: Android, continued

Tue 2/15

Lecture 4: Android, continued

Tue 2/22

Lecture 5: Android, continued
Tue 3/1

Lecture 6: Android, continued
Tue 3/8

Lecture 7: iOS
Tue 3/22

Lecture 8: iOS, continued
Tue 3/29

Lecture 9: iOS, continued
Tue 4/5

Lecture 10: iOS, continued
Tue 4/12

Lecture 11: iOS, continued
Tue 4/19

Lecture 12: Conclusion
Tue 4/26

Sections

Lectures are supplemented by weekly sections led by the teaching fellows. Sections provide an opportunity to review and discuss course materials in a more intimate environment, with only your teaching fellow and a handful of classmates present. Moreover, the teaching fellows supplement material from lecture with additional examples and implementation details as well as provide further guidance for projects.

A schedule of sections will appear on the course's website.

Projects

A schedule of projects, subject to change, appears below.

HTML5: Staff's Choice **Mobile Local**

Released: Tue 2/1
Due: Thu 2/17, noon ET

Android: Setup

Hello, World: Android Edition

Released: Tue 2/8

Due: Thu 2/24, noon ET

Android: Staff's Choice

n-Puzzle

Released: Tue 2/22

Due: Thu 3/10, noon ET

Android: Student's Choice

Released: Tue 3/8

Due: Thu 3/24, noon ET

iOS: Setup

Released: Tue 3/22

Due: Thu 4/7, noon ET

iOS: Staff's Choice

Evil Hangman

Released: Tue 4/5

Due: Thu 4/21, noon ET

iOS: Student's Choice

Released: Thu 4/21

Due: Thu 5/5, noon ET

HTML5: Student's Choice

Extra Credit

Released: Thu 4/21

Due: Thu 5/12, noon ET

Extensions on these projects will not be granted, except in cases of emergency. Technical difficulties will not constitute emergencies. Late submissions will be penalized 1% per minute late up to 100%. Lateness will be determined by submissions' timestamps.

App Party

On Fri 5/13 from 5:30pm ET until 7:30pm ET in Maxwell Dworkin 119 at 33 Oxford Street, the course will conclude with an App Party, a course-wide exhibition of students' choices of HTML5, Android, and iOS projects. The App Party will be an opportunity to mingle with classmates, see each other's work, and eat cake. Distant students are encouraged to travel to campus for the event. Family and friends are welcome to join you.

Books

No books are required for this course. However, we recommend the below. Each of these books is available for purchase at sites like Amazon.com. Each has also been placed on reserve at Grossman Library.

HTML5

Beginning iPhone and iPad Web Apps: Scripting with HTML5, CSS3, and JavaScript
Chris Apers and Daniel Paterson
Apress (2010)
ISBN: 978-1430230458

Android

Hello, Android: Introducing Google's Mobile Development Platform, Third Edition
Ed Burnette
Pragmatic Bookshelf (2010)
ISBN: 978-1934356562

Professional Android 2 Application Development
Reto Meier
Wrox (2010)
ISBN: 978-0470565520

iOS

Beginning iOS 4 Application Development
Wei-Meng Lei
Wiley (2010)
ISBN: 978-0-470-91802-9

Beginning iPhone 4 Development: Exploring the iOS SDK
Dave Mark, Jack Nutting, Jeff LaMarche
Apress (2011)
ISBN: 978-1-4302-3024-3

iOS 4 Programming Cookbook
Vandad Nahavandipoor
O'Reilly (2011)
ISBN: 978-1-449-38822-5

Grossman Library

Each of this course's recommended books has been placed on reserve in Grossman Library, located in Sever Hall 311; the books may not be checked out.

A schedule of hours appears at the address below.

<http://www.extension.harvard.edu/2010-11/resources/libraries.jsp>

Academic Honesty

All work that you do toward fulfillment of this course's expectations must be your own unless collaboration is explicitly allowed by some project. Viewing, requesting, or copying another individual's work or lifting material from a book, magazine, website, or other source—even in part—and presenting it as your own constitutes academic dishonesty, as does showing or giving your work, even in part, to another student.

Similarly is dual submission academic dishonesty: you may not submit the same or similar work to this course that you have submitted or will submit to another. Nor may you provide or make available your or other students' solutions to projects to individuals who take or may take this course (or CSCI S-76) in the future.

You are welcome to discuss the course's material with others in order to better understand it. You may even discuss problem sets with classmates, but you may not share code. You may also turn to the Web for instruction beyond the course's lectures and sections, for references, and for solutions to technical difficulties, but not for outright solutions to problems on projects. However, failure to cite (as with comments) the origin of any code or technique that you do discover outside of the course's lectures and sections (even while respecting these constraints) and then integrate into your own work may be considered academic dishonesty.

If in doubt as to the appropriateness of some discussion or action, contact the staff.

All forms of academic dishonesty are dealt with harshly.