

CS193C: Client-Side Internet Technology

Dr. Patrick Young

Summer 2012

Welcome to CS193C. This class will focus on client-side Internet technology including HTML, Cascading Style Sheets, JavaScript, and AJAX. We will also briefly discuss website design and use of graphics and multimedia on the web. The complete schedule of topics and lectures can be found at the end of this document.

Course Staff & Office Hours

Lecturer:	Dr. Patrick Young Gates 194 Office Hours: Tuesday 5:15-6pm, Thursday 5:30-6:15pm Office Phone: (650) 723-6090 E-Mail: patrick.young@stanford.edu Please do <u>not</u> leave me voice mail—use e-mail or post on Piazza instead.
Teaching Assistants:	Michael Duong Office Hours: TBD E-Mail: mduong@stanford.edu Deniz Kahramaner Office Hours: TBD E-Mail: denizk@stanford.edu

We will be using the Piazza bulletin board system. The fastest way to get class help is to post on Piazza, as all three of us will be monitoring it regularly. If in doubt on whether or not your post is relevant or appropriate for other class members, you may post a private message on Piazza.

Grading

Midterm	25%
Final Quiz	10%
4 Homework Assignments	40% (at 10% each)
Class Project	25%

Course Assignments

Late Policy

Assignments turned in late will be penalized 10% for each day which has passed since the original due date. No assignment may be turned in more than a week after its original due date and no assignments will be accepted after the final on August 18th.

I realize that you do have other classes and other responsibilities. Therefore, you will be given a late allowance of three late days can be used to excuse late assignments. This allowance may be used for a single assignment or it may be divided for use on multiple assignments. For example, if you turn in one assignment three days late, you've just used up your entire late allowance. However, if instead you turn in the assignment two days late you still have an additional late day which you can use for another assignment. To take advantage of a late day, send an e-mail to your teaching assistant that you wish to use your late assignment allowance.

Please remember that you are working under the Stanford Honor Code. If you are working on a late assignment you must not discuss the assignment with other students and you may not look at any published solutions until after the assignment is turned in.

Your late allowance is only usable on regular assignments *not* on the Class Project.

Collaboration

All of the regular assignments should be done alone. The official policy on how much collaboration is allowed on the regular assignments is specified in a separate handout entitled "Computer Science and the Stanford Honor Code". Please make sure you read it.

The Class Project has its own policy on collaboration, which is discussed briefly below and will be further elaborated in the Class Project handout.

Copying Code

Learning HTML, CSS, and JavaScript by studying the source code of other web pages is an accepted practice within the Internet community. I encourage you to look at the HTML, CSS, and JavaScript source of any interesting pages you happen to see. However, you should not copy the code verbatim for class assignments. I recommend looking at the source, trying to understand how it works, then hiding the source and trying to reproduce it on your own based on your new understanding. If you can't reproduce it without looking at the code, you clearly don't understand it yet. Feel free to come talk to me or the teaching assistant, and we'll try and help you out.

Again, as with collaboration the Class Project will have its own rules for copying code.

Editors

A number of editors exist for editing HTML, CSS, and JavaScript source code. Check the rules on each assignment for what is allowed. You may not use a WYSIWYG (What You See is What You Get) editor such as Dreamweaver unless the assignment explicitly gives you permission.

Class Project

At the end of the quarter you'll have an opportunity to show off your newly learned webpage development skills by developing a complete website. You are welcome to create a website for real world use or to simply make something up for fun. However, under Stanford regulations, you may not get paid for anything you receive credit for, so your class project website cannot be work related.

For this assignment only, you may work with a partner. In addition, as noted below, you may receive outside assistance for any server-side programming needed by your website.

I expect most projects to use client-side Internet technology only. However, if you're planning to develop a website for real use, you may need server-side programming as well. In this case, and only in this case, you may receive direct outside assistance on writing code. You may have someone from outside class handle the server-side programming, as long as this is fully documented, so we know who did what and as long as you (or your in-class partner) have handled all the client-side work on your own.

If you do decide to include server-side programming, keep in mind that the bulk of your grade will be determined by your use of client-side technology, regardless of the complexity of the server-side technology used by your website.

Exams

The midterm will be Thursday, August 2nd from 6:30-10:30pm. The midterm will focus on programming and the actual practice of getting a JavaScript-enhanced webpage working. In place of a final we will have a final quiz worth 10% of your final grade. This quiz is scheduled for Saturday, August 18th at 7pm. The final quiz will focus on theory and terminology as well as material covered after the midterm.

If you cannot attend an exam for any reason, you must notify and receive approval from me *at least* a week in advance. In addition, you must have an alternative exam time scheduled *before* the actual exam. If either of these conditions is not met, I reserve the right to either reduce your score or give you a zero on the exam.

Local SCPD students are expected to come on campus for the final.

Use of Copyrighted Material

While copying of material is rampant on the Internet, copyright laws still apply and threats of lawsuits are fairly common. I recommend that you use caution in copying or presenting material on the Internet.

I realize that you all have very limited access to computerized pictures for use in class assignments and the class project. You may copy *graphics* off the Internet for the class assignments or the class project. I believe that this use of graphics is covered under the educational fair use clause of copyright law as long as (1) you document your sources and (2) you use the graphics for class assignments only and do not publish your material on the Internet. *However, do keep in mind that if you leave up your class project on the web after we have graded it, you may be in violation of copyright.*

For more information on copyright the Stanford libraries have an excellent copyright law website at <http://fairuse.stanford.edu/>.

Software

Unfortunately different World Wide Web browsers treat both HTML and JavaScript differently. Because supporting versions of Internet Explorer involves a great deal of specialized work, while I will be teaching some of the techniques to support IE, you will not be required to support it on assignment. Instead in order to get you used to testing on and supporting multiple web browsers and we will have you use Chrome and Firefox. Please get the latest (non-beta) versions of these browsers. Check individual assignments for browser requirements.

Course Materials

Books to Consider

Web references will generally be sufficient to learn Client-Side Programming. Here is a list of books for those of you who want additional reference material. In general, I recommend the O'Reilly Media books. Stanford has a license providing access to online-versions of O'Reilly books. They can be accessed from:

`http://proquest.safaribooksonline.com/`

Please note that our license only provides for an extremely limited number of users who can access these online books from Stanford simultaneously. The following books are particularly relevant for our class.

Chuck Musciano & Bill Kennedy, *HTML & XHTML: The Definitive Guide, 6th Edition*, O'Reilly Media, 2006. ISBN 0-596-52732-2.

This book provides an excellent reference and overview for HTML. However, if you only need a reference (not a tutorial) you may want to consider getting the Danny Goodman *Dynamic HTML* book listed below instead.

David Sawyer McFarland, *CSS: The Missing Manual, 2nd Edition*, O'Reilly Media, 2009. ISBN 0-596-80244-7.

While CSS is relatively straightforward, this book does a great job delving into all aspects of CSS.

David Flanagan, *JavaScript: The Definitive Guide, 6th Edition*, O'Reilly Media, 2011. ISBN 0-596-80552-7.

This is the matching JavaScript reference corresponding to the O'Reilly Media HTML book listed above. This is a very solid reference book. As with the HTML guide above, if you are planning to continue working on web pages, this would make a fine reference for your collection.

Danny Goodman, *Dynamic HTML: The Definitive Reference, 3rd Edition*, O'Reilly Media, 2006. ISBN 0-596-52740-3.

This is a very strong reference on HTML, CSS, and the DOM. Make sure you get the latest edition, as the first edition is missing some crucial material which has been added to the second edition.

In addition, the O'Reilly *Learning XML* and *Web Navigation: Designing for the User Experience* are very good.

You may also want to take a look at:

Danny Goodman, *JavaScript Bible, 7th Edition*, John Wiley & Sons, 2010. ISBN 0-470-526912.

This is the "classic" reference for JavaScript. I have heard some complaints that the latest version has too many of the chapters on the CD-ROM, not in the book. You may want to read the Amazon reviews on the various versions before deciding if you want to get it.

The Class Web Site

The class website can be found at:

<http://cs193c.stanford.edu/>

The class website will include announcements, handouts, assignment support materials, and links to web sites related to material covered in class.

Piazza Discussion System

We will be using the Piazza online discussion system. Signup for Piazza at:

<http://piazza.com/stanford/summer2012/cs193c>

Tentative Class Schedule

This is a tentative class schedule.

Lecture 1: Introduction & Basic HTML (Week 1, June 26)

Course Administration, Client-Side Processing, Basic HTML

Lecture 2: HTML & CSS (June 28)

HTML, CSS, Reading the XHTML DTD, the HTML5 Specification

Lecture 3: HTML, CSS, and CSS Layout (Week 2, July 3)

Continued discussion on HTML and CSS, CSS-based Layout

Lecture 4: HTML, CSS, JavaScript (July 5)

Closing comments on HTML & CSS. Introduction to JavaScript.

Lecture 5: JavaScript & DOM (Week 3, July 10)

JavaScript Basics, Working with the Document Object Model

Lecture 6: JavaScript Events (July 12) *Assignment 1 Due*

Basic Events, W3C and IE-Specific Events

Lecture 7: JavaScript Debugging (Week 4, July 17)

Basic Debugging Techniques

Lecture 8: JavaScript & CSS (July 19) *Assignment 2 Due*

Using JavaScript to Access and Modify CSS Properties

Lecture 9: More JavaScript & CSS (Week 5, July 24)

Lecture 10: AJAX (July 26)

AJAX, Using the XMLHttpRequestObject, Miscellaneous JavaScript

Lecture 11: Website Design (Week 6, July 31)

General Website Design Principles

Midterm (August 2, 6:30-10:30pm) *Assignment 3 Due*

No lecture.

Lecture 12: JQuery (Week 7, August 7)

Lecture 13: JQuery (August 9)

Lecture 14: TBD (Week 8, August 14) *Assignment 4 Due*

August 16, No Class *Class Project Due*

Final Exam (Saturday, August 18, 7pm)

The Stanford Honor Code

The standard of academic conduct for Stanford students is as follows:

- A. The Honor Code is an undertaking of the students, individually and collectively:
 - (1) that they will not give or receive aid in examinations; that they will not give or receive unpermitted aid in class work, in the preparation of reports, or in any other work that is to be used by the instructor as the basis of grading;
 - (2) that they will do their share and take an active part in seeing to it that others as well as themselves uphold the spirit and letter of the Honor Code.
- B. The faculty on its part manifests its confidence in the honor of its students by refraining from proctoring examinations and from taking unusual and unreasonable precautions to prevent the forms of dishonesty mentioned above. The faculty will also avoid, as far as practicable, academic procedures that create temptations to violate Honor Code.
- C. While the faculty alone has the right and obligation to set academic requirements, the students and faculty will work together to establish optimal conditions for honorable academic work.