CS144: Web Applications – Winter 2018

Time and Place

- **Hours:** Monday and Wednesday, 2:00PM - 3:50PM
- **Location:** Boelter Hall 3400
- **Web site:** http://oak.cs.ucla.edu/classes/cs144/

Exam

- **Final:** Monday, March 19, 2018, 11:30AM - 2:30PM

Instructor

- **Name:** Junghoo "John" Cho
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- **Office:** 3531H Boelter Hall
- **Office hour:** Tuesday 2:30PM - 3:30PM

Course Description

Developing today's Web applications requires knowledge on a number of diverse topics, including the basic Web architecture, core Web standards (such as HTTP, HTML, CSS), security and scalability. Traditionally, these topics have been taught in different subdisciplines of computer science, so students had to take a fair number of courses to learn the basic concepts necessary to build effective and safe Web applications. The goal of this class is to teach students the most important concepts and give them the first-hand experience with the basic tools for developing Web applications.

The topics that will be covered in the class include:

- Basic Web architecture
- Core Web standards, such as HTTP, unicode, HTML, and CSS
- Javascript and JSON
- Web programming paradigms, including MVC and asynchronous programming

- Web security
- Web-site scalability

To help students digest the materials learned in the class, we will assign a quarter-long class project (which will be divided into multiple submissions), in which students have to build a Web site that allows users to write and publish blogs (a.k.a., mini WordPress) The software tools and development environment will be provided on the class Web site.

Prerequisites

CS143 is a required prerequisite to this class. In particular, students should must know:

- Relational databases
- Java programming
- Unix command-line interface
- Basic HTML
- Basic networking (TCP/IP)
- Basic data structures and algorithms (sorting, hashing, tree, etc.)

Students should have access to a computer on which they can install software packages.

Grading

The final grade will be assigned based on the following criteria:

- Project: 60%
- Final exam: 40%

Note that project counts 60%. The final grading will be done based on the curve. Roughly 30% students will get A, 40% B and the remaining 30% C or D.

Books

The class does not have a required text book, but students may find the following books helpful for reference and in-depth learning:

- Web Application Architecture by Leon Shklar and Rich Rosen

- Web Design with HTML, CSS, JavaScript and jQuery Set by Jon Duckett
- JavaScript: The Definitive Guide by David Flanagan
- Getting MEAN with Mongo, Express, Angular, and Node by Simon Holmes
- Designing Data-Intensive Applications by Martin Kleppmann
- Foundations of Security by Neil Daswani, Christoph Kern, Anita Kesavan

We will also provide pointers to relevant online/offline materials as the class progresses.

Academic Integrity

At http://www.deanofstudents.ucla.edu/Academic-Integrity, the Office of the Dean of Students presents University policy on academic integrity, with special attention to cheating, plagiarism, and student discipline. The policy summaries don't specifically address programming assignments in detail, so we state our policy here. In order to earn any points on your coursework, you must turn in this signed agreement.

Each of you is expected to **submit your own original work, or the original work of your team in the project.** On many occasions it may be useful and have an educational value to ask others (the instructor, the TA, or other students) for hints or help, or to talk generally about programming strategies. Such activity is both acceptable and encouraged, but **you must indicate any assistance (human or otherwise) that you received.** Any assistance received that is not given proper citation will be considered plagiarism. In addition, to avoid unintended sharing and copying of your work, **publishing your work on a public repository, such as public github, is strictly prohibited.**

So where do we draw the line? We'll decide each case on its merits, but here are some categorizations:

Acceptable:

- Clarifying what an assignment is requiring
- Discussing algorithms for solving a problem, perhaps accompanied by pictures, without writing any code
- Helping someone find a minor problem with their code, provided that offering such assistance doesn't require examining more than a few lines of code
- Using codes from the course text, from reference materials linked on the project page, or from the instructor or the TAs.

Unacceptable:

- Turning in any portion of someone's work without crediting the author of that work, if they are not from the sources mentioned above.
- Using project solutions from earlier offerings of this or any other class
- Soliciting help from an online source where not all potential respondents are subject to the UCLA Student Conduct Code
- Receiving from another person (other than the instructor or a TA) a code fragment that solves any portion of a programming assignment
- Writing for or with another student (except your partner) a code fragment that solves any portion of a programming assignment

In any event, you are responsible for coding, understanding, and being able to explain on your own or as a team all project work that you submit.

Be especially careful about giving a copy of your work to a friend who "just wants to look at it to get some ideas". Frequently, that friend ends up panicking and simply copies your work, thus betraying you and putting you through the hassle of an academic discipline hearing.

You must abide by this policy in addition to the policies expressed in the UCLA Student Conduct Code. If a violation of the policies is suspected, in accordance with University procedures, we will have to submit the case to the Dean. A typical penalty for a first plagiarism offense is suspension for one or more quarters. A second offense usually results in dismissal from the University of California.

Alternate Exams

Please note that routine alternate exams will not be offered in CS144. The university strongly discourages students from enrolling in two classes given at the same time, and instructors are under no obligation to accommodate such students. If you provide an extraordinarily compelling case then an alternate exam may be given, but alternate exams are always oral exams given by the instructor privately in his office.

Online discussion group

All students must join and utilize CS144 discussion group at Piazza by registering at https://piazza.com/ucla/winter2018/cs144. This online discussion group will be the

primary channel for students to ask course and project related questions and for others, including the TA, to answer them. Note that some of your questions may have already been discussed and answered by others, so please search the board first before asking a question. When you join the discussion group, you may choose to receive email notifications for new messages or just to read them on the board. *You are responsible for all your posts to Piazza.* Thus, please do NOT post any content that might be considered as a violation of honor codes, such as your source code to the project. If you have any doubt or concern, please **ASK** the TA/lecturer before posting it.