Database-Backed Web Programming
CSE 491 s1, Spring '13
Syllabus 1/8/13 (v1)

Lecture/lab: Tu/Th 2:40-4pm, McDonel Hall 2

Instructor: C. Titus Brown, ctb@msu.edu, BPS 2228(c)
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Office hours: TBA

Objectives:

In this course, you will learn how the Web works by writing a Web server and some Web applications. More generally, we will discuss concepts in client-server and peer-to-peer architectures and how all of this technology works "under the hood" on today's Internet. We'll also discuss issues and approaches to developing software with an eye to maintainability, and learn about the practical separation of concerns in Web application stacks, from browser through server.

Background: Everything will be done in Python (v2.7) on Linux, and you should have general familiarity with programming, including object-oriented programming and functions.. There are no specific prerequisite bits of info.

Materials: There are no required books or materials, and everything I use will be freely available online.

Attendance: Attendance is expected, and there will be a lot of in-class discussions and work, so come unless you have a good reason otherwise. I will post a list of dates when class will not be meeting; the first one is this Thursday 1/10 ☺.

Tests, homeworks, and grading: There will be no tests; I hate 'em, and you hate 'em. Homeworks will generally be due every other Thursday, one week after I assign them; extensions will be available by request until I grade the homeworks, usually by the following Monday; if you don't hand one in on time or by the extension, you will get a 0. I may give you an extension to fix problems in HWs under certain conditions. Course grades will be evenly divided across the homeworks, and I'll grade on a right-skewed curve so that you can still get a 4.0 if you do well on all but one homework.

Group work: All work can be done in groups, with one exception that I'll explain next Tuesday. You're completely responsible for what you hand in.

Extra credit: Participation on the mailing list is strongly encouraged and will be used to assign extra credit; this includes asking questions, not just answering them. Posting relevant resources is also encouraged.

Your first TODO (by Thursday, 1/10):

1) Sign up for the mailing list at http://lists.idyll.org/listinfo/cse491-spring-2013
2) Go to www.github.com/ and create an account. It's free.
3) Make sure you have access to a Python 2.7 (**not Python 3.x)** interpreter. You can install Python from www.python.org. It's also on the CSE systems.

Commercialization (my notes) and intellectual property (your code): My notes will be licensed under a Creative Commons license, attribution required (http://creativecommons.org/licenses/by/2.5/). This means you can do whatever you want with them as long as you properly attribute their origin to me. Copyright to your code will be retained by you, but in order to take the course you must give me and all other students in the course a license to share and adapt your work for non-commercial purposes (Creative Commons, Attribution-Noncommercial-Share Alike; http://creativecommons.org/licenses/by-nc-sa/3.0/). Please see me privately before drop day if you want to discuss this.

Course scope: The course will include the following: advanced abstractions in Python; automated testing and code coverage analysis; network programming; HTTP protocol implementation; JavaScript and JQuery; HTML templating with Jinja2; Django programming (Python); Amazon Web Services and cloud computing; exceptions; and software installs and systems administration on Linux.

Course outline: I will provide a tentative course outline on Tuesday 1/15.