LIS901B

Webmastering II: the dynamic website

2001–02–14

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Course Description

This course focuses on the construction of a dynamic web site. A web site is dynamic if the user can alter the website's behavior by entering data. Dynamic website are a key tool for electronic commerce and digital libraries. Dynamic websites are non-trivial mainly because of the stateless nature of the http protocol. This course will introduce the construction of dynamic web sites using PHP scripts running off an apache web server.

PHP stands for "PHP Hypertext Processor". It is a language that is specifically designed for server-side scripting. It is easy to learn but hard to debug.

Since the majority of the data on dynamic web sites drops out of relational database backends, the course will introduce basic concepts from database theory. In addition, each student will create a tiny database on her own. However that database need not to be relational, a single table database will suffice.

Course objectives

After taking this course students

- they will have sufficient knowledge of HTML in order to create simple pages;

- they will understand the stateless nature of http;

- they will have learned to log into a UNIX machine and edit files on it;

- they will be introduced to computer programming;

- they will be proficient in the use of PHP scripts.

- they have a rudimentary understanding of relational databases;

- they will know a few basic commands of SQL;

- they will have created their own little database on the web;

and they will be able to make a lot of money with these skills.

Prerequisites

There are no other formal prerequisites for this course. Students should be familiar with the World Wide Web, and should be able to use a MS Windows computer, i.e. click on an icon to run a program. Students should also be familiar with basic concepts of computer hardware and software, concepts like files, memory. Basic familiarity with HTML will be an advantage. Everything that goes beyond that will be explained in class or by personal interaction with the instructor.

Students must be aware that this course is fairly computer technical in nature. A knowledge of computer programming is not required, instead it will be acquired during the course. A willingness to learn is essential.

Finally, students should be aware that the course has an experimental nature. They should think of the unexpected nature of problems that lie ahead as a challenge, rather than a nuisance. This course is meant to be an eye-opener into different perspectives of librarians' work.

Instructor
Thomas Krichel
Palmer School of Library and Information Science
C.W. Post Campus of Long Island University
720 Northern Boulevard
Brookville, NY 11548–1300
krichel@openlib.org
work phone: +1–(516)299–2843
Private contact details may be obtained from the online CV at http://openlib.org/home/krichel/cv.html.

Class structure
Classes will be held on Tuesdays between 18:40 and 21:00 in the computer lab in the Palmer School. There will be no class on some weeks, the schedule below is preliminary. Each class will have some presentation by the instructor. However a majority of time the class will work directly with their computers under the supervision of the instructor. Between classes students are welcome to see the instructor or ring him at any time.
Class details:

(100)(1) 0	2002–01–22	introduction to course, logging in, using putty
1	2002–01–29	getting started basic HTML and PHP
2	2002–02–05	*no class*
3	2002–02–12	basic types, operators and statments
4	2002–02–26	functions and arrays
5	2002–03–05	business plan presentation and file manipulation
6	2002–03–12	introduction to databases
7	2002–03–19	*no class*
8	2002–04–02	introduction to database theory
9	2002–04–0	using MySQL
10	2002–04–19	project presentation by students
11	2002–04–26	MySQL database connectivity
12	2002–04–33	using PHP to query MySQL databases

This schedule leaves some flexibility to cancel a few sessions or do overtime.

Readings
We will approach the course mainly from the PHP end, rather than from the database end. Therefore the crucial book is the book on PHP. The instructor intends to follow Blank, Wankyu, Kent, Prasad, and Ullman (2000). This a required purchase for students.
To understand basic HTML, students can either look at information available on the web, or purchase Castro (1999).

Assessment
The assessment will be based on three components

1. A series of mini-exams at the start of most sessions. Each mini-exam will have weight 1. Students missing more than one mini-exam will collect "F" for such a mini-exam unless they have been ill.

2. A presentation on a database project by the student. The student will be asked to build a tiny database, and the presentation is about the database project. This presentation counts weight 2.

3. A small database on the web made available as a final project by the student. This will have the weight of 4 mini-exams.

References

Blank, Jon, Choi Wankyu, Allan Kent, Ganesh Prasad, and Chris Ullman (2000). *Beginning PHP4*. Wrox Press. see http://www.wrox.com/Books/Book_Details.asp?section=11_3&isbn=1861003730&subject=&subject_id=.

Castro, Elizabeth (1999). *HTML4 for the World Wide Web: Visual Quickstart Guide*. Peachpit Press.