SLIS 5717
Dynamic WWW Control Structures

Instructor

Jiangping Chen, Ph.D.
Assistant Professor
Information Science Building, Room 209
School of Library and Information Sciences,
University of North Texas
P.O. Box 311068, Denton, TX 76203
Phone: **(940) 369-8393**
Fax: (940) 565-3101
Email: **jpchen@unt.edu**

Course Description

This course focuses on issues relating to Web database system design and implementation. Knowledge about database design, the Internet, and Web programming will be discussed and integrated to construct real-world Web database systems. Students will develop thorough theoretical understanding of database design and obtain hands-on experience on Web database technology. Various advanced database applications in library and information science will be introduced and discussed.

Course Goals

Students will develop theoretical understanding of the basic concepts and challenges of database design and Web database systems. In the meantime, students will gain knowledge on WWW techniques and hand-on experience on designing and implementing dynamic, interactive web sites.

Course Objectives

Upon completion of this course, students should have achieved following objectives:

1) Master principles of Web database systems and procedures of Web database system design.
2) Understand various data modeling techniques such as Entity Relationship modeling, Object Role Modeling (ORM), and Unified Modeling Language (UML) and use them to handle real-world problems or applications in Library and Information Sciences settings.
3) Understand Web database applications in the area of Library and Information Science, such as digital libraries, metadata, and image database systems.
4) Convert conceptual database models to operational Web database systems.
5) Understand and apply SQL (structured query language) to insert, modify, and query the data in a web database system.

6) Advance knowledge about Web architecture, Web programming, and text processing using regular expression.
7) Design and Implement empirical, real-world web database systems using PHP (or Perl) and MySQL (or Other DBMS).
8) Document and report a Web database system.

Prerequisite

Course prerequisite: SLIS 5714: Website Development and SLIS 5970: Database Modeling and Design for Information Professionals, or consent from the instructor

Textbooks

Required:

Welling, Luck & Thomson, Laura. (2003). *PHP and MySQL Web Development*. 3nd Edition. Sams Publishing, Indianapolis, Indiana. **ISBN**: 0672326728

Recommended:

Peter Rob and Carlos Coronel. Database Systems: Design, Implementation, and Management, sixth Edition. ISBN 0-619-21323-X. Available at UNT bookstore.

Grading Policy

Students' final grades will be based upon performance on following components:

- Class participation (10%)
  The grade for class participation consists of class attendance, in-class exercise fulfillment, and discussion involvement. Students are expected to attend each class and actively participate in class activities. Absence from the class without acknowledgement from the instructor in advance will receive a lower class participation score.

- Assignments (30%)
  Assignments are designed to help students understand important concepts and gain hands-on experience in web database design and implementation. Assignments should be typewritten and diagrams should be drawn by graphics software packages. More details about assignment requirements will be explained in class

- Midterm exam (20%)
  The midterm exam will be carried out in class at the beginning of the fifth class meeting. The form of the exam will consist of multiple choices, short questions, and longer, descriptive questions. The time for the exam will be 2 hours.

- Team projects (40%) (First Team Project: 10%; Final Team Project Presentation: 10%; Final Team Project Report: 20%)
  The purpose of the team projects is to cultivate team collaboration in designing and developing Web database systems. Students will gain a thorough understanding of web architecture and database design. Two team projects will be assigned. The deadline for final team project report is **April 29, 2005** for Spring 2005.

Assignments and projects are due at the start of class, unless specified otherwise. Late work will be accepted only for three days after the due date, with a 10% penalty per day. This is to facilitate the timely return of graded assignments with answers.

The final grade will follow the scales below:

A = 90- 100; B = 80-89; C = 70- 79; D = 60-69; F = 59 and below

Academic Misconduct

Cheating and disciplinary action for cheating is defined by the UNT Policy Manual Code of Student Conduct and Discipline. Cheating is an act of academic dishonesty. It is defined and is to be handled as follows:

> "Plagiarism and cheating refer to the use of unauthorized books, notes or otherwise securing help in a test; copying tests, assignments, reports or term papers; representing the work of another as one's own; collaborating, without authority, with another student during an examination or in preparing academic work; or otherwise practicing scholastic dishonesty."
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> "Academic dishonesty matters may first be considered by the faculty member who may assign penalties such as failing, reduction or changing of a grade in a test, course, assignment, or other academic work, denial of a degree and/or performing additional academic work not required of other students in the course. If the student does not accept the decision of the faculty member, he/she may have his/her case heard by the academic department chairperson or head for review of his/her case. If the student does not accept the decision of the academic department chairperson, he/she may then follow the normal appeal procedures listed in Disciplinary Procedures."

Americans with Disabilities Act Compliance Statement

Anyone with a disability that will require accommodation under the terms of federal regulations must present a written accommodation request to the instructor within eleven days after the first class session. Copies of the School's ADA Compliance Policy, ADA Policy on Auxiliary Aids and Reasonable Accommodation, and ADA Grievance Procedures are available through the main office of the School of Library and Information Sciences (ISB 205; telephone 940-565-2445). It is also recommended that you register with the Office of Disability Accommodation (University Union 318A, telephone 940-565-4323).

Course Schedule

Meeting	Lectures and Activities	Reading	Assignments/Projects Due
1	• Introduction to database design and Web architecture • Basic concepts of script writing and Web programming • Lab: Script basics	Welling &Thomson Chapters 1, 8 Rob & Coronel Chapters 1, 2, 6	
2	• Conceptual modeling – ERD, ORM, and UML • Lab: CM using ERD, ORM, and UML	Rob & Coronel Chapter 3 Handouts	1. Personal Website 2. Class Survey 3. PHP Script Basics
3	• SQL for MySQL • PHP/Perl string manipulation and regular expression • Lab: SQL and PHP	Welling &Thomson Chapters 9, 10, 2, 3, 4	Conceptual Modeling
4	• Selected database issues: Security, Data warehouse and data mining	Welling &Thomson Chapters 15, 16, 17 Handouts	SQL and PHP Script (1) Team Project 1
5	• Midterm Exam • Database applications and Advanced database techniques • Group discussion: Team Projects	Welling &Thomson Chapters 24, 28	
6	• Web database systems in LIS • Final team project presentation	Handouts	SQL and PHP Script (2)
7	No Class		Final Team Project

Office Hour

Dr. Chen, Jiangping: Monday 10-12am or by appointment (jpchen@unt.edu)
Ms. Jiang, Shikun (TA): to be announced