INTERNET & WEB APPLICATION DEVELOPMENT SWE 444

Fall Semester 2008-2009 (081)

Module 0: Getting Started

Dr. El-Sayed El-Alfy
Computer Science Department
King Fahd University of Petroleum and Minerals
alfy@kfupm.edu.sa

Objectives/Outline

- **Objectives**
  - Be familiar with the class requirements and policy
  - Learn what it is all about and set expectations.

- **Outline**
  - Course Objectives & Outcomes
  - Evaluation Methods
  - Course Resources
  - Tentative Major Topics
  - Caveat
  - Questions & Answers
  - Next Lecture …

1

Course Objectives & Outcomes

➢ Course Objectives
- ○ To provide students with conceptual and practical knowledge, and skills required to develop web applications and web services.

➢ Learning Outcomes
- ○ *Upon completion of the course, you should be able to:*
1. Perform analysis modeling and design modeling for web applications.
2. Identify candidate tools and technologies for developing web applications.
3. Develop user-interfaces for web applications.
4. Describe and transform data using XML and its related technologies.
5. Develop web applications and web services.

Evaluation Methods

Assignments & Quizzes	10 %
Major Exam 1 (Date: Nov. 19, 2008@7:00-9:00PM & Room: TBA)	15 %
Major Exam 2 (Date: Dec. 31, 2008@7:00-9:00PM & Room: TBA)	20 %
Final Exam (semi-comprehensive) [Date: as announced by the registrar]	25 %
Term Project (Group of 3 or 2): Submitted in phases.	30 %

Course Resources

➤ Required Material
  ◦ No *official* textbook but the lecture slides provides a good start in addition to several web sites that will be made available through the course website

➤ Recommended References
  ◦ *Internet and World Wide Web How to Program*, 4/e, H. M. Deitel, P. J. Deitel, and A. B. Goldberg, Pearson Education Inc., 2008.
  ◦ *Advanced DOM Scripting: Dynamic Web Design Techniques*, J. Sambells & A. Gustafson, Apress 2007.
  ◦ *XML How to Program*, 1/e, H. M. Deitel, et al., Pearson Education Inc., 2001.
  ◦ *Web Engineering - The Discipline of Systematic Development of Web Applications*, G. Kappel, B. Pröll, S. Reich, and W. Retschitzegger (eds), John Wiley & Sons, 2006.

Tentative Major Topics

➤ Internet Basics for Web Applications [~4 Lectures]
  ◦ Introduction to the Internet
  ◦ Client-server basics
  ◦ HTTP protocol
  ◦ Web security
  ◦ Search engines
➤ Web Engineering Fundamentals [~3 Lectures]
  ◦ Introduction to web applications & web engineering
  ◦ Requirements gathering & planning for web engineering
  ◦ Analysis modeling for web Applications
  ◦ Design modeling for web applications (quality dimensions, architectural design)
  ◦ Design modeling for web applications (interface design, content design)
  ◦ Testing web applications
➤ Markup Languages and Styling [~6 Lectures]
  ◦ HTML, XHTML, CSS (Cascading Style Sheets)
➤ Client-Side Scripting (JavaScript) [~3 Lectures]
➤ Server-Side Programming [~7 Lectures]
➤ Data Description and Transformation (XML, XSL, XSLT, DTD, DOM, XSD) [~8 Lectures]
➤ Web Services, Web Servers (Hosting) [~4 Lectures]
➤ Advances in Web Engineering [~4 Lectures]

Caveat

➢ What this course is not about

"… there is a difference between *training* and *education*. If computer science is a fundamental discipline, then university education in this field should emphasize enduring *fundamental principles* rather than *transient current technology*."

-Peter Wegner, Three Computing Cultures. 1970.

Q & A

?

Next Lecture Preliminary Questions

➢ What is the Internet?
➢ What is the world-wide web (www)?
➢ What are the common applications of the Internet?
➢ What are the main constituents of the Internet?
➢ What is a network protocol? What is a protocol standard? Who is responsible for creating protocol standards? Why?
➢ What are the main constituents of the Web?
➢ How did the Internet, and the Web evolve?
➢ What does Web Development mean?
➢ What does Web Services mean?
➢ Etc.