WEB ENGINEERING & DEVELOPMENT SWE 363

Spring Semester 2008-2009 (082)

Module 0: Getting Started

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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 …

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	20 %
Major Exam 2	20 %
Final Exam (semi-comprehensive)	25 %
Term Project	25 %

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.

Student Expectations & Terminology

Q & A

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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.