Midterm Prep Document

Topics

- WWW Architecture
  - Components – Internet, clients, servers
  - HTTP protocol
  - Process of requesting a Web page
- XHTML
  - Terminology (elements, tags, attributes, content), components, syntax
- CSS
  - Terminology (selector, properties, values), components, syntax
- Usability
  - Fundamental idea: Don’t make the user think
  - Guiding principles
  - Trunk test – what it is, why we need it
- Quality Attributes
  - How is web software different from regular software?
  - How do those characteristics change what constitutes “quality software” on the Web?
- Web application servers
  - Handle requests (get, post)
  - Return responses
  - Servlet container
  - Multi-threaded
- Java Servlets
  - Implementation
  - Important methods: init, doGet, doPost, destroy
  - Sessions vs Request vs Context Attributes
  - Parameters vs Attributes vs Init Parameters
  - Maintaining state across multiple requests
- JSPs
  - Why developed
  - Syntax
  - Organization with Servlets
- Synchronization
  - Critical sections
  - How to synchronize
- Version Control
  - Benefits, limitations
  - Software tools
- Testing Web applications
  - Process – input, output, oracle, comparator
  - Tools
- Databases, SQL
  - Why DB? Why SQL?
  - Terminology – attributes, entities, rows, columns
  - Organization of tables, attributes, data types
  - Common SQL statements, meanings
- JDBC
  - Why JDBC?
  - How to connect
  - Basic Syntax

Exam Format
- Very short answer
- Short answer
- Types of questions: Similar questions to reviews at beginning of lecture, e.g., comparisons, fix the code, explain the code, …

What I expect from you
- Know the what, why, and how of concepts
- Know tradeoffs
- I am not looking for essays. You can use bulleted lists or tables, as appropriate for the question.
- Make sure I know that you know what you’re talking about.
- **Be precise, clear in your answers.**
- Use the appropriate terminology
- Do not need to know the Legal article or the Google search article

How to study
- Review lecture slides
- Review assignments
- Practice writing HTML, CSS, Servlets, JSPs, SQL queries, JDBC