

## Objectives

- Review Ajax
- What We've Done
- In Brief: What else is out there

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## Review: Ajax

- What technologies does Ajax use?
  - How does Ajax work?
  - Why is Ajax useful?
- 
- Content does not have to be in XML
    - Can return plain text

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## Security

- Better not to have JSPs visible to user
- If go to servlet, hides the technology used from the user
  - No explicit .jsp extension
  - Hacker can't focus attack on known technology

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## 1st Day: What This Course Is About

- Web applications
  - Distributed computing
  - Web application technologies (server and client)
  - How to develop high-quality Web applications
- Software engineering
  - Large development project
  - Software, collaboration tools
  - Emulate real-world experience with actual client
- Life-skills
  - Reading, writing, discussion, presentation

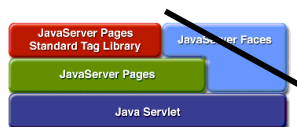
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## What We've Done

- Client-Side
  - XHTML
  - CSS
  - JavaScript
  - Ajax
- Server-Side:



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## Software Engineering Skills

- Writing requirements documents
  - Anticipate needs, potential problems
- Design skills
  - Interface first
    - Rapid prototyping, static HTML mockup
  - Iteration - improves final product
    - Find problems early
- Collaborating with team members
  - Version control software, wiki
- Handling deadlines
  - Prioritizing functionality, modifying requirements

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## Tools

- Eclipse Web Tools Platform
- Firefox Plugins
  - WebDeveloper, Firebug
- Version Control
  - Subversion, Subclipse
- Wiki, Blog

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## Web 2.0 Technology

- Different user experience than before
  - Emphasis on **user collaboration**, creativity, information sharing
- Ajax: enables some of new experience
- Wikis, Blogs, Social networking sites

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## Using Your Knowledge for Good?

- “So, You Hacked Our Site!”

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## Frameworks

- Know the Java-based Web fundamentals
  - Servlets - foundation; JSPs, JSTL
- Frameworks
  - JavaServer Faces (JSF)
    - Simplify UI development using components
    - Apache's Shale framework
  - Apache Struts
    - MVC Framework
  - Spring
    - Newer, lighter-weight MVC Framework
    - Works with languages other than Java too

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## Alternative Programming Languages

- **ASP**: *Active Server Pages*
  - Microsoft, VB Script
- **CGI**: Common Gateway Interface
  - Typically implemented in C or Perl
- **Django**: MVC Python-based Web Framework
  - Altered form in Google App Engine
- **PHP**: *PHP: Hypertext Preprocessor*
  - Easy, runs on Apache, but security holes
  - Our Wiki uses PHP
- **Ruby on Rails**: Ruby-based MVC Web Framework

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## Web Services

- Machine to machine communication
  - Rather than human to machine
- WSDL: Web Services Description Language
  - Well-defined interface
- SOAP: XML messages
  - Acronym inaccurate now



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## Project: Code Statistics

Total Lines of Java Code	1803
Classes	28
JSP	56
HTML, CSS, JS	2 / 6 / 0

- Clean up code
  - Need all 6 CSS files? Seems to be a lot of duplicates

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## Project: Implementation

- Should be done with bulk of implementation today
- **Testing**
  - Test each other's code ASAP
  - I will do some testing too and look over the code
  - Fix bugs but NO NEW FUNCTIONALITY!

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## Project: Documentation

- Technologies used: Orbital Library
  - <http://www.functologic.com/>
- Handling of 'v' in answers
- Future work ideas?

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## Project: Demo

- Application functionality
- Typical situations of how a user would use the application
- Security features
  - What a malicious user can't do
  - Example: my "auth" Selenium tests
    - Try to be devious!

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## TODO

- Project
  - Documentation, Bug Fixes, Demo on Monday

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