

# **Custom Java/Web Technologies Seminar**

- **Day 1 (JSF and Web Frameworks):**
  - 9-9:30: Introductions and Overview
  - 9:30-11: Review of Customer's upcoming projects and needs
  - 11-12:30: Comparing Web Frameworks: JSF, Spring MVC, Struts, Tapestry and WebWork. Velocity and FreeMarker will be discussed when talking about Spring MVC and WebWork.
    - Discussion of MVC and why a framework is important
    - Overview of each framework (includes code)
    - Comparison based on the following criteria:
      - List Screens (sorting and paging)
      - Bookmarkability
      - Validation
      - Testability
      - Post and Redirect
      - Spring Integration
      - Internationalization
      - Page Decoration / Templating
      - Tools
      - Marketability of Skills
      - How hard is it to find developers?
    - How to Choose a Web Framework
  - *Lunch Break*
  - 1:30-2:30: Discussion of previous presentation
  - 2:30-3:30: Introduction to JSF
    - What is JSF and why should you use it?
    - Development Steps
    - Demo (using Java Studio Creator 2)
    - Architecture Overview
  - 4:30-6: Free-forum discussion
  
- **Day 2 (Middle Tier):**
  - 9:00-10:00: JSF Discussion Points
    - Implementations – which is best?
    - Components – free vs. commercial
    - Templating/Decorating Solutions
    - Integration with Ajax
    - JSF and Portlets
    - Tools for Development
    - Security
    - Internationalization
    - XSL
    - Rendering Capabilities
    - Documentation Features
    - Other Issues: back button, browsers, etc.
  - 10-11: Introduction to the Spring Framework
    - What is Spring and how does it work?
    - Dependency Injection
    - Spring vs. J2EE
    - Testing Spring Applications
    - Data Access Overview

- Spring MVC
- Transactions
- AOP
- Remoting and Web Services
- Tools
- *Lunch Break*
- 1-3: Hibernate Overview
  - Introduction to O/R Mapping
  - What is Hibernate?
  - Architecture, configuration, how to use
  - Hibernate and Spring
  - DAOs, Caching and XML Persistence
- 3-4: Deploying to Production
  - Keys to Success
  - Environment and Source Control
  - Pre-Production
  - Before You Deploy
  - During Deployment
  - After Deployment
  - The Rollback
  - Migration Concerns
  - Deployment Tools
  - Hosted Applications
  - Anticipating Change
  - Source Control
- 4-5: Free-forum discussion
- 5-6: Caching and Performance Strategies
  - Caching in the UI
  - Middle-Tier Caching
  - Backend Performance Tuning
  - Profiling and JVM Tuning
  - Monitoring with Management with Java 5

### **Day 3 (Spring Web Flow, eCommerce, CMS Systems and RSS):**

- 9-10: Introduction to Spring Web Flow
  - What is it?
  - Architecture Overview
  - Developing a Flow (includes code and demo)
- 10:30-12: eCommerce in Web Applications
  - History of eCommerce and the web
  - Hosted vs. In-House
  - Privacy and Security
  - Preventing Fraud
  - Identity Theft and Insurance
  - Integration with 3<sup>rd</sup> Party Systems
- *Lunch Break*
- 1-3: Comparing Content Management Systems
  - Alfresco, Drupal, Joomla, Magnolia, OpenCMS and Plone
  - Discussion of Customer's Requirements
  - Document vs. Web – pick the best tool for the job
  - Overview of each CMS
  - Feature Comparison and Demos
  - Evaluation Criteria

- Ease of Installation
  - Ease of Use
  - Community and Support
  - Web 2.0 Friendliness
  - Extensibility
  - Security
  - Performance
  - Discussion: Extending your CMS. This will likely vary based on the language and plugin architecture. Portlet engines vs. CMS applications.
- 4-5: Sharing with RSS and Atom
  - Benefits of XML Feeds
  - The Formats
  - Distributing Data
  - Producing Feeds
  - Serving Feeds Efficiently
- 5-6: Free-forum discussion
- **Day 4 (Security and Preferences):**
  - 9-11: Acegi Security Framework
    - J2EE's Container Managed Authentication
    - Basic vs. Form Authentication
    - Pain Points of J2EE's CMA
    - Acegi Security Features
      - Providers: JDBC, In Memory, LDAP
      - Protecting Methods by Role
      - Remember Me
      - SSL Switching
      - Single-Sign On
    - Integration with Web Frameworks and Ajax
  - 11-12: Best Practices for storing User Preferences
    - Cookies
    - Database Tables
    - Java's Preferences API
  - *Lunch Break*
  - 1-4: Free-forum discussion / architecture review
- **Day 5 (Source control and coding practices):**
  - 9-11: Introduction to Subversion and source control systems
    - How to use
    - Features and Benefits
    - Tools
  - 11-12: Coding Standards and Best Practices
    - Code Style and Javadocs
    - The importance of an IDE
    - Enforcing Rules with Checkstyle
    - Enforcing best practices with AspectJ
    - Test and Code Coverage Reports
    - Testing with JUnit and TestNG
    - Project Management and Maven 2
    - Code Auditing with FindBugs and PMD
  - *Lunch Break*
  - 1-4: Free-forum discussion / code review