

# Emergent Architecture: Web 2.0, SOA, & SaaS

SE004

## Objectives

- *Understand the underlying tenets of Web 2.0, SOA, and SaaS*
- *Understand designs, concerns & mitigation strategies related to recombinant applications: Remixes, Mash-ups & Composite Software*
- *Understand best practices in AJAX based development*
- *Understand the concepts of Client/Service computing*
- *Understand the skills, practices, and processes related to creating emergent architectures*
- *Understand why and when to use 'classic Web services' versus light-weight approaches*
- *Understand the practical details of legacy enablement*

## Introduction

'Emergent Architectures: Web 2.0, SOA, and SaaS' provides both breadth and depth of training in the most important aspects of this next generation computing platform. The course covers both concept and realization or architecting software with services and leveraging the recombinant application design. It also covers social computing concepts to bring together the core tenets of this movement.

## Overview

With the growing 'web as a platform' paradigm, organizations are finding it necessary to understand how to leverage these new architectural styles to deliver software that has more features, is more reusable, cost effective, and agile. This course helps build the awareness and skills needed to take advantage of these emerging technologies.

## Audience

This course is designed for technicians who will be involved in the actual design or implementation of Emergent Architectures.

## Prerequisites

Students should understand the basic concepts of Web development.

## Class Size and Duration

This two-day course can accommodate up to 12 students.

## Course Outline

### 1. Architectural Evolution

- Review classic computing
- Discuss SOA
- Review Web services
- The case for lighter weight solutions
- Introduce light-weight protocols, formats and identifiers

### 2. Introducing AJAX

- Review the need for rich client applications
- Designing for asynchronous behavior
- Review JavaScript capabilities
- Consuming and producing XML messages
- Using DHTML
- A simple AJAX application

### 3. Connecting AJAX to Services

- Review JSON
- Using POX (plain old XML)
- Using SOAP calls
- Using SOAP with WS-\*

### 4. Using AJAX Libraries

- Survey of available libraries
- Hands on: Prototype library
- Hands on: Scriptaculous
- Hands on: Behavior library
- Using multiple libraries together
- Hands on: Tibco general interfaces
- Serving up AJAX applications

### 5. The CICS Architecture

- Review Client/Service
- Review Client-Intermediary-Service
- Review Client-Intermediary-Composite Service
- Discuss types of intermediaries (functional and technical)
- Review types of design-time structural composition
- Discuss versioning issues
- Service level agreements
- Discuss consumption & transport techniques

### 6. Information, Syndication, and Notification

- The evolution of content: Publish, Search, and Subscribe
- The importance of near real-time
- The importance of targeted information
- Giving information structure
- Giving information meaning
- Microformats
- Syndicating (RSS and ATOM, SSE, OPML)
- Re-syndicating

### 7. Community Solutions

- The role of community & participation in Web 2.0
- The role of 'self service applications'
- Mark-up/Mark-down languages
- The Blog & Podcasting
- The Wiki & the Bliki
- Case studies (Blogger, Flickr, Del.icio.us)

### 8. The Web as Platform

- Hosted solutions & Hosted services
- Recombinant clients
- Enterprise Web platforms
- The role of Software-as-a-Service
- How can your organization participate

### 9. Architectural Tenets

- Simplicity over complexity
- Designing for unknown consumers
- Self service applications
- Information finds meaning through use
- Recombinant systems over capping
- Trust is key to relationships

### 10. The Obstacles

- Moving from art to science
- Managing rapidly changing technologies
- Versioning, change management, and impact analysis
- Service level agreements
- Common trust, privacy, authorization, access control, and encryption
- Transactions (all or none)
- Supporting the users

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#### About MomentumSI

MomentumSI is a leading boutique IT consultancy focused on enterprise transformation. We are known for helping large enterprises quickly and cost-efficiently adopt innovative, agile practices to align business needs with IT processes. We specialize in helping companies incorporate disruptive technologies, including Cloud Computing, DevOps, BPM and SOA.

