

GSAW 2010 Tutorial I:

Strengths and Weaknesses of Architecture Approaches and Their Value Propositions

Length: Half Day

Overview:

The body of architecture knowledge continues to grow and make available to the practitioner several major approaches to software system design. The purpose of this tutorial is to briefly summarize the major technical elements of several popular approaches in use today, assessing their strengths, weaknesses, and risk profiles. This critical analysis includes identification of considerations that drive an architect to select one approach over another. The selection rationale is normally a mixture of technical and business justifications that should all map back to stakeholder system requirements and the broader business goals of the organization. This tutorial reviews the key qualitative justifications that apply for each approach, along with covering anecdotal quantitative justifications found in the literature, interwoven throughout the coverage of a general method for making return on investment business cases for software initiatives. The tutorial wraps-up with a brief discussion on how to combine architecture approaches synergistically, looking particularly at the use of SOA practices in the context of product line initiatives.

The following architectural approaches will be covered:

- Enterprise Architecture
- Software Architecture
- Information Architecture
- Product Line Architecture
- Model Driven Architecture
- Grid & Cloud Computing

Instructor: Steven Fonseca, AdeptArch

Biography:

Dr. Fonseca is a chief software architect with 12 years of experience helping organizations achieve state-of-the-practice results for software development with a focus on distributed systems middleware and applications in mission critical and applied R&D contexts. He has held positions at the Jet Propulsion Laboratory, Hewlett Packard Labs, British Telecommunications Labs, Intel, and NASA Ames Research Center. His technical interests include service oriented architecture, ontologically-based information systems, enterprise-class middleware, the dynamics of organizational change, and R&D technology transfer. Steven completed his PhD in Computer Science from UC Santa Cruz in collaboration with HP Labs. Steven completed a MS in Computer Science from UC Santa Cruz and a Bachelor of Science in Computer Engineering from UC Davis. He is currently pursuing an MBA at UCLA.

What Participants Should Expect to Learn:

Technical managers and engineers with broad design responsibilities will enjoy the wide range of topics covered in this tutorial.

Who Should Attend:

Some familiarity with the modern practice of architecture is useful but not required as summary descriptions for approaches will be given.