Advanced Software Architecture Workshop

Despite consensus among participants that architecture-centric engineering skills are highly valuable, the chance to incorporate these skills doesn't always come ready-made.

Purpose of the Workshop

You can now directly put into practice your knowledge of successful architecting principles through the Advanced Software Architecture Workshop. Here you will apply to a concrete architecture problem what you've learned in other architecture courses offered by the Software Engineering Institute (SEI).

This workshop is helpful if you wish to

- enhance your own architecting skills by receiving practical feedback as you address challenges
  or
- resolve the challenges of your organization's particular architecture project through a customized example

In both scenarios above, the workshop eases the integration of classroom knowledge into your organization's everyday practice.

Despite consensus among SEI course participants that architecture-centric engineering skills are highly valuable, the chance to incorporate these skills doesn't

always appear ready-made. Organizational infrastructure, culture, and deadline pressures that don't leave time for introducing process change can impede adoption of new practices.

Many organizations have embraced architecture-centric engineering methods and specifically software architecture practices to mitigate risk. The Advanced Software Architecture Workshop is designed to expedite practice adoption for all organizations. The goals of the workshop are for participants to become comfortable with the SEI architecture-centric engineering methods and able to use those methods effectively in their home organizations. Workshop content is based on the SEI books *Software Architecture in Practice, 2nd Edition*, and *Documenting Software Architectures: Views and Beyond*.

Workshop Activities

SEI-trained software architects practice their skills in a concrete and practical setting.

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Using an actual architecture as an example, participants select a problematic scenario for the system, examine the possible weak points of the software architecture, decide on appropriate mitigations, peer review their proposed changes, and revise the architecture as required. Time permitting, participants also prepare documentation for the development.

This two-day workshop guides the participants with four exercises through a typical architecture improvement cycle in a concrete project setting. At the beginning, the participants are introduced to an architecture that has undergone evaluation through the SEI Architecture Tradeoff Analysis Method (ATAM). Participants address any risks uncovered by the evaluation, proceeding as follows.

First exercise: Participants analyze some of the presented risks, determine the weaknesses in the architecture that led to those risks, and plan a course of action to strengthen the architecture.

Second exercise: Participants brainstorm and weight possible solutions through application of the SEI Attribute-Driven Design (ADD) method. Based on results, they propose architecture changes to mitigate the risks.

Third exercise: Other workshop participants challenge the proposed changes, using a scenario-based peer review process to ensure the proposed changes indeed address the risks.

Fourth exercise: Participants prepare the reviewed architecture changes for development and perform an active design review to communicate their design to the developers.

Option to Customize for a Particular Project

A second option is available for architects preparing to embark on a project that requires significant architecture improvements. The SEI team can visit their site, study the project, and create a customized example for the project that will present the same risks that challenge the project. The workshop activities described above follow at the site, with a narrow focus on finding architectural solutions for the risks. This option involves extra team time for gaining sufficient knowledge of the customer project and so is priced accordingly.

Who Should Attend?

This workshop is targeted to

- software architects and software lead designers who want to practice what they learned in the SEI software architecture curriculum
- seasoned software architects who want to get ready for a project that requires major architecture improvements

What Will You Learn?

The workshop provides attendees with in-depth coverage of the concepts needed to effectively improve existing architectures. After attending, participants will have a better understanding of

- improving architecture through the defined process
- analyzing and planning architecture tasks
- improving an existing architecture design
- conducting a scenario-based peer review
- preparing the architecture documentation to support a conformance of the implementation

Prerequisites for the Workshop

Before registering for this workshop, participants must have completed the

- Software Architecture: Principles and Practices course (available as instructor-led classroom training and as eLearning)
- Documenting Software Architectures course

Related Web Sites

www.sei.cmu.edu/architecture/

For Workshop Registration

www.sei.cmu.edu/products/courses/

For More Information

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