GSAW2005 Tutorial F:

An Introduction to Software Architecture Evaluation

Length: Half Day

Overview:

If function were all that mattered in software-intensive systems, any monolithic software would suffice; but other things do matter. Acquirers and developers of complex software systems need their systems to be modifiable and to perform predictably. They may also need them to be secure, interoperable, portable, usable, and reliable. These quality attributes depend on choosing the correct software architecture. As systems become larger and more complex, software architecture takes on an even more important role. It makes immanent sense to analyze a software architecture before proceeding to create detailed designs and code.

This tutorial covers the basic concepts involved in evaluating software product architectures, and provides an overview of several architecture analysis methods developed by the Software Engineering Institute. The concepts are illustrated using actual organizations' experiences with software architecture evaluation. The tutorial contents are based on the book "Evaluating Software Architectures: Methods and Case Studies."

Instructor: Linda Northrop, Software Engineering Institute

Biography:

Linda Northrop has over 35 years of experience in the software development field as practitioner, researcher, manager, consultant, and educator. She is currently director of the Product Line Systems Program at the Software Engineering Institute (SEI) where she leads the SEI work in software architecture, software product lines and predictable component engineering. Under her leadership the SEI has developed software architecture and product line methods that are used worldwide, a series of five highly-acclaimed books, and Software Architecture and Software Product Line Curricula that include a total of eleven courses and six certificate programs.

Linda is a recipient of the Carnegie Science Award of Excellence for Information Technology and the New York State Chancellor’s Award for Excellence in Teaching. She is co-author of the book, "Software Product Lines: Practices and Patterns," and a primary author of the SEI Framework for Software Product Line Practice. She is a frequently invited speaker at technical and corporate conferences, including most recently the International Conference on Software Engineering and the Aspect-Oriented System Development Conference. She chaired both the first and second international Software Product Line Conference (SPLC1 and SPLC2), is the OOPSLA Steering Committee Chair and was OOPSLA 2001 Conference Chair.

Before joining the SEI, she was associated with both the United States Air Force Academy and the State University of New York as professor of computer science, and with both Eastman Kodak and IBM as a software engineer.

Who Should Attend:

Participants should have experience in designing and developing software-intensive systems and some familiarity with modern software engineering concepts and practices.