SOFTWARE ARCHITECTURE WORKSHOP

from BREDEMEYER CONSULTING

ORLANDO, FLORIDA
Nov. 13-16, 2000

Architecture · Architecting · Architects

OVERVIEW

The term "software architecture" is used both for the high-level structure of a software system, and the related field or discipline. In the workshop, we approach the software architecture discipline from three primary points of view:

- *architecture*, answering the question: "what is software architecture?" and introducing architectural patterns, principles and mechanisms.
- *architecting*, that is the process of creating an architecture. The major emphasis of the workshop is on learning how to create, validate and update an architecture.
- *architects*, focusing on the role and responsibilities of the architect and positioning the architecture role within the organization.

BENEFITS

Software architecture contributes to competitive advantage in two primary ways:

- it provides the technology platform that supports the product characteristics and development processes which differentiate a business from its competitors
- it helps address system complexity.

Software architects are thus poised to play a critical role in an organization's business success, translating business strategy into an architectural strategy that is the foundation for a stream of products or family of systems. This workshop is designed to provide participants with concepts, techniques and lessons from experience that will help them be more successful in the architect role.

We have considerable experience helping architects and their organizations transition to higher levels of architectural competency. The software architecture workshop integrates extensive real-world architecture experience, and builds on four years of teaching software architecture workshops.

CONTENT

Software Architecture

In the software architecture section, we deal with:

- meta-architecture: the architectural vision, style, principles, key communication and control mechanisms, and concepts that guide the team of architects in the creation of the architecture.
- architectural patterns: structural patterns such as layers and client/server, and mechanisms such as brokers and bridges.
- architecture modeling using the Unified Modeling Language (UML).
- architectural views: structural views help document and communicate the architecture in terms of the components and their relationships, and are useful in assessing architectural qualities like extensibility. Behavioral views are useful in thinking through how the components interact to accomplish their assigned responsibilities and evaluating the impact of what-if scenarios on the architecture. Behavioral views are especially useful in assessing run-time qualities such as performance and security. Execution views help in evaluating physical distribution options and documenting decisions.
- component specification: components are identified and assigned responsibilities that client components access through "contracted" interfaces. Component interconnections specify communication and control mechanisms and allow component interactions to accomplish system behavior.
- key architectural design principles including abstraction, separation of concerns, postponing decisions, and simplicity, and related techniques such as interface hiding and encapsulation.
- system decomposition principles and good interface design.

The Architecting Process

The technical process section is the principal focus of the workshop, and covers:

- Architectural requirements: how to elicit and document functional (i.e., behavioral) requirements and non-functional requirements (i.e., system qualities including run-time qualities such as performance and reliability, and development-time qualities such as evolvability/extensibility and reusability).
- Structuring: how to use architectural modeling to decompose the system, evaluate architectural trade-offs, and document the system using different views.
- Evaluation: how to assess the system in terms of the system requirements.

The organizational process section covers:

- Sponsorship: how to gain the support of all levels of management affected by the architecture
- Leadership: how to create and lead the architecture team
- Consulting: how to assist the developer community in their use of the architecture to ensure its successful adoption and appropriate use

The Role and Responsibilities of the Architect

This section relates the responsibilities and associated skills and attitudes of the architect to the architecting process.

Format. Exercises form a large component of this four-day workshop, which is oriented toward building skills rather than simply exposing students to new concepts. Also, case studies and stories from our experience are used to integrate real-world lessons into the workshop.

AUDIENCE

This workshop is designed for architects and senior system design engineers. Managers of architecture teams will also benefit.

INSTRUCTOR'S BACKGROUND

The workshop leader, Dana Bredemeyer, has over 20 years experience architecting, designing and developing software systems, including 16 years with Hewlett-Packard. He developed Hewlett-Packard's internal Software Architecture Workshop, and continues to be its principle instructor. He has provided architecture consulting and training to architects, architecture teams and their management at the project, organization and business unit levels, and has helped teams develop software, firmware and system architectures for products, product families and information systems. Dana is currently co-authoring a book on software architecture for Prentice-Hall.

PRICING

The cost for the 4-day workshop is $2000 per student. We offer a $200 discount for registering at least 4 full weeks in advance of the class start date. Note: The *class size is limited to a maximum of 16 students*, so register early to avoid disappointment.

Cancellation Policy. Refunds will be made in full if cancellations are made more than 21 days in advance of the workshop start date. Cancellations made 21 days or less from the workshop start date are not refundable. However, student substitutions may be made any time prior to the start of the workshop.

VENUE

The workshop will be held at **DoubleTree Guest Suites Resort Orlando Maingate**. It is a great location, just 5 miles from *Walt Disney World*® and minutes away from the Orlando International airport. For more information, see http://www.bredemeyer.com/Orlando_workshop.htm

We have negotiated a rate of $129.00 per night for one bedroom or two bedroom suites at the DoubleTree. This makes it a great opportunity to bring your family along! See www.orlandofamilyhotel.com for more information on the DoubleTree resort or call (407) 397-0555 to make your reservation.

TO REGISTER

To register for the workshop, you can do one of the following:

- register on-line on our web site http://www.bredemeyer.com/training.htm, or
- call Bredemeyer Consulting at (812) 335-1653

ABOUT BREDEMEYER CONSULTING

Bredemeyer Consulting specializes in training and mentoring software architects. We typically work with architecture teams, providing training and mentoring to accelerate their creation or migration of an architecture. However, we do offer a limited number of Software Architecture Workshops for open enrollment.

For more information, please

- **see our web site: http://www.bredemeyer.com**
- **call (812) 335-1653.**