

## **Course C33**

### **Avoiding "We can't change THAT, either!": Usability-Supporting Architectural Patterns**

1 unit

*Instructors:* Bonnie E. John, Len Bass & Elspeth Golden (Carnegie Mellon University).

*Companion Course:* Avoiding "We can't change THAT"

#### *Benefits:*

Additional usability analyses or user test data are in; the development team is poised to respond. The software had been carefully modularized so that modifications to the UI can be fast and easy. When the usability problems are presented, someone around the table exclaims, "Oh, no, we can't change THAT, either!"

This course builds on an understanding of software architecture and details a method for avoiding "We can't change THAT!" through the application of usability-supporting architectural patterns. Through detailed examples, controlled experiments to validate the value of the method, and personal experience with the construction of real-world systems, we present attendees with the materials necessary to be effective at bringing usability concerns to architecture design discussions. (An introductory course, Avoiding "We can't change THAT!": An Introduction to Usability and Software Architecture" prepares attendees with no prior experience in software architecture to benefit from this course).

Participants in this course already understand basic principles of software architecture for interactive systems. Through this course will, they will

- Understand patterns of software architecture that facilitate usability,
- Be able to recognize architectural decisions that preclude usability of the end-product, so that they can effectively bring usability considerations into early architectural design.

#### *Origins:*

A combination of previous tutorials at CHI'02, '03, '04 and ICSE'04.

#### *Features:*

- An introduction to usability-supporting architectural patterns (USAPs) and their role in software architecture design.
- Detailed examples of the USAPs and their use in real-world system construction.
- Results of a controlled experiment validating the benefit of using USAPs in architecture design.
- Small group exercise applying USAPs to the attendees' specific design situations.

#### *Intended Audience:*

Usability professionals desiring more involvement with early software decisions. Software developers who want to understand the usability implications of architectural decisions. Prior knowledge of software architecture is required. This knowledge can be

obtained by attending the introductory course, Avoiding "We can't change THAT!": An Introduction to Usability and Software Architecture".

*Presentation style:* Lecture, Q&A, and small group exercise.

*Instructors' Backgrounds:*

Bonnie John, a psychologist & engineer, has 20 years experience teaching HCI. Len Bass is the author of three books on software architecture & developing user interfaces.

Elsbeth Golden is a doctoral student in the Human Computer Interaction Institute at Carnegie Mellon studying the intersection of HCI and software engineering.

For more information see <http://www.cs.cmu.edu/~bej/usa/>