



UML: The Unified Modeling Language

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Overview

Since UML first appeared, it has become the dominant modeling technique for software developers. As stated in the *OMG Unified Modeling Language Specification* (www.rational.com/uml):

“The Unified Modeling Language (UML) provides system architects working on object analysis and design with one consistent language for specifying, visualizing, constructing, and documenting the artifacts of software systems, as well as for business modeling.”

UML “... represents the convergence of best practices in the object-technology industry. UML is the proper successor to the object modeling languages of three previously leading object-oriented methods (Booch, OMT, and OOSE).”

“... UML is the union of these modeling languages and more, since it includes additional expressiveness to handle modeling problems that these methods did not fully address.”

The authors of UML, Grady Booch, Ivar Jacobson, and James Rumbaugh, created both a conceptual model and a development process. UML provides nine overlapping views of the conceptual model. Each view is represented by a different kind of diagram. During the first three of four sessions, we will discuss UML by describing each of the nine views and their associated diagrams. In the final session we will discuss the development process.

Topics

UML Views

- Object Class and Relationship Views
- Object Instance Views
- Scenario Views
- Time-Ordered Interaction Views
- Structural Interaction Views
- Object Behavior Views
- Inter-Object Flow of Control Views
- Component Organization and Dependency Views
- Runtime Processing Views

UML Development Process

- Distinguishing aspects of the Unified Process
 - Use-Case Driven
 - Architecture Centric
 - Interactive and Incremental
 - The Life-Cycle
- Core Workflows
 - Capturing Requirements
 - Analysis
 - Design
 - Implementation
 - Testing

Tutorial Presenter

Dr. Scott N. Woodfield is a professor of Computer Science at Brigham Young University. He is a co-author of *Object-Oriented Systems Analysis: A Model-Driven Approach* (Prentice-Hall 1992), and has published over 50 papers on systems analysis and software development. For the last three years Dr. Woodfield has been teaching UML in industrial workshops and in university classes.

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