

UML Workshop

Hands-on Object Modelling with UML and Use Cases

The Unified Modeling Language (UML) is the industry standard notation for describing object-oriented systems. It can be used as a medium for describing existing systems as well as for communicating the requirements and structure of new ones. The notation includes a number of diagram types that can be applied from analysis, through design and to system deployment. Although ostensibly independent of development lifecycle, UML is intended to support iterative and incremental, architecture-driven development. The (Rational) Unified Process (RUP) provides a common framework intended for UML-based development processes, both heavy and light. It outlines four basic phases in a lifecycle: *inception*, *elaboration*, *construction* and *transition*.

The *UML Workshop* course introduces a useful subset of the core modelling notation in UML and follows the four RUP phases in practice (as closely as is reasonable and possible in the context of a modelling workshop). Models appropriate to each development activity are developed, with notation introduced as needed. The common pitfalls of using UML and use cases, such as a tendency to fall into sequential development with a big, up-front design phase and verbose use case descriptions, are highlighted and cautioned against. The course outlines a more agile approach to modelling and the use of use cases.

Objectives

- Identify and present a useful working subset of UML notation
- Outline a lightweight development lifecycle based on RUP
- Describe an agile approach to working with and documenting use cases
- Put the notation and concepts into practice for a simple project

Audience

The course is suitable for software developers and analysts with some notion of object-oriented principles and practices. Any previous experience with object-oriented programming, use cases, UML or other modelling notations is an advantage.

Content

Inception Sequential versus iterative development processes · The (Rational) Unified Process · The inception, elaboration, construction and transition phases · Agile processes and agile use of RUP · Models and agile modelling · The history and role of UML · Scope and system requirements · Context diagrams · Actors · Identifying and defining use case goals · Use case diagrams · Use case preconditions and postconditions · Event-triggered use cases

Elaboration Using class diagrams for information models · Basic class diagram notation · Using activity diagrams to describe workflow and use case ordering · Using state machine diagrams for object lifecycles · More advanced class diagram notation · Outlining a broad, baseline architecture with package diagrams, component diagrams and deployment diagrams

Construction Elaborating use case detail · Evaluating use case priority and risk · Iteration planning and estimation · Overview of interaction diagrams

Transition Adopting and adapting UML · The role of tools

Additional Details

Duration 2 days

Setup Projection facilities for a laptop · Whiteboards, flip charts and pens · Enough room for groups of three or four people to work together comfortably

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