



TRAINING

Advanced Executable UML for Developers

Overview

Learn how to build Executable UML models for real-time and embedded systems. Students develop a complete set of models for a working solution. Numerous exercises demonstrate the skills and thinking it takes to build fully executable and translatable models.

What You Will Learn

UML and Executable UML

Unique needs of Real-Time Embedded Software	Orientation
Functional vs. Control vs. Object	Evolution of UML
Functional Diagram Categories	UML and Real-Time
Benefits of Goals Executable UML	

System Organization

Organizing Principles of Complex Real-Time Systems	Domains and Bridges
Consequences of Good and Bad Partitioning Schemes	Requirements and Assumptions
Partitioning Criteria for Implementation Independence	UML Package Diagrams
Allocation vs. Deployment	

Analysis

Requirements Specification vs. Implementation	Essential analysis tasks
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Class Models

Class, Association and Relationship Abstraction Concepts and Goals	
Formal Data Semantics	Classes
Relationships	Attributes

State Models

Lifecycles of Classes	State Chart Notation
Executable Synchronization Rules	State Tables
Executable Event Transmission Rules	Error Behavior
Behavior Patterns	Resource Contention
Collaboration	Control Layering
Communication Patterns	Scenario Execution
Timing Processes, Failure and Repetition	

Procedure Models

Actions and Procedures in UML	Executable UML Extensions
Primitive Actions	Action Execution Rules
Example Procedures	

System Integration

Client and Service Domain Roles	Subsystems
Configuration of Service Domains	Bridge Interactions
Counterpart Model Elements	

Engineering Process

Productive Model Sequence and Deliverables	Characteristics of a Good Process
How to Schedule Development Steps	How to Review Models
Maximizing Parallel Development	

Implementation by Translation

Hand vs. Automated Coding	Benefits
Model Compiler Theory and Practice	



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Who Should Attend

This course is intended for systems engineers, software developers, application analysts, project leaders and managers intensively involved in the analysis and development of systems. Software development experience at some level is essential. Prior experience in object-oriented development or modeling languages is helpful but not necessary.

Training

All of our classes are taught by experienced real-time developers with excellent teaching skills. Real world examples are used throughout the lecture slides and case study exercises.

Logistics - This five-day course is offered as a public class. The course will be held in Linköping, at Etteplan AB:s facilities, address Teknikringen 8D. Contact NRT for more information and/or to order this training.
Phone: +46 (0)70-731 0450.

Date Year 2017 – April, 3 – 7 (Week 14)

Teacher: Mr. Leon Starr from Model Integration.

Duration - 5 days.

Price per Delegate – 34.000 SEK

Delegates - The course is limited to 12 persons per course. The minimum number of delegates is 8, below that number the course can be postponed.

Prerequisites - A general understanding of project development and structured technologies.

Training Material - All course material is included in the training fee.