

Object-Oriented Analysis and Modeling

Winter 1999/2000

Program

Date	Lecture	Training
9/27/99	Introduction <ul style="list-style-type: none"> • Motivation • SW development life cycle(s) - briefly • Applicability of modeling techniques • UML: Introduction 	Introduction to the case study
10/4/99	Requirements <ul style="list-style-type: none"> • Goals • The process - briefly • UML: Generic mechanisms - briefly 	Use Case Model - the initial steps; identification of primary use cases and actors
10/11/99	☞ UML: Use Case modeling (also from UML v. 1.3)	Refinement of the Use Case Model - structuring, element descriptions, etc.
10/18/99	Use Case Realization <ul style="list-style-type: none"> • Goals ☞ UML: Interaction modeling • Practices of identification of objects 	Use case realizations for chosen Use Cases
10/25/99	Analysis <ul style="list-style-type: none"> • Goals ☞ UML: Static structure diagrams • Domain modeling • Tracing from interaction to class models • Refinement of class diagrams ☞ UML: Dynamic behavior modeling 	Class modeling of; identification of classes and their responsibilities, their structuring and the refinement of the model
11/8/99		
11/15/99		
11/22/99		Statecharts of significant classes and activity diagrams of significant processes/mechanisms; GUI behavior modeling
11/29/99	Design <ul style="list-style-type: none"> • Goals ☞ UML: Physical structure modeling • GUI design • Other modeling techniques: GUI flow diagrams, E-R diagrams, ... 	Modeling of components and the application deployment. Design examples from the real project - demonstration of possible difficulties and complexity of the problem, ...
12/6/99	Advanced Modeling Mechanisms <ul style="list-style-type: none"> ☞ UML: General extension mechanisms • UML Extensions and Variations • OCL - a brief introduction • Analysis patterns <ul style="list-style-type: none"> • Purpose • Brief description of selected ones 	Recognition and applying the analysis patterns in existing analysis model. Refining the model with stereotypes, tagged values and constraints, ...
12/13/99		

Bibliography

Books/Papers/Manuals

1. Rational Software Corp.: UML Summary, version 1.1, 1 September 1997.
2. Rational Software Corp.: UML Notation Guide, version 1.1, 1 September 1997.
3. Rational Software Corp.: UML Semantics, version 1.1, 1 September 1997.
4. Rational Software Corp.: UML Extension for Objectory Process for Software Engineering, version 1.1, 1 September 1997.
5. Rational Software Corp.: UML Extension for Business Modeling, version 1.1, 1 September 1997.
6. Rational Software Corp.: Object Constraint Language Specification, version 1.1, 1 September 1997.
7. OMG: OMG Unified Modeling Language Specification (draft). Version 1.3 alpha R5, March 1999.
8. Fowler M., Scott K.: UML Distilled: Applying the Standard Object Modeling Language. Addison-Wesley, 1997.
9. Booch G., Rumbaugh J. and Jacobson I.: The Unified Modeling Language User Guide. Addison-Wesley, 1999.
10. Booch G., Rumbaugh J. and Jacobson I.: The Unified Modeling Language Reference Manual. Addison-Wesley, 1999.
11. Rosenberg D., Scott K.: Use Case Driven Object Modeling with UML. A practical Approach. Addison-Wesley, 1999.
12. Booch G., Rumbaugh J. and Jacobson I.: The Unified Software Development Process. Addison-Wesley, 1999.
13. Krutchen P.: The Rational Unified Process. Addison-Wesley, 1999.
14. Rational Software Corporation: Rational Unified Process. 1998.
15. Fowler M.: Analysis Patterns: Reusable Object Models. Addison-Wesley, 1999.
16. Rumbaugh J., Blaha M., Premerlani W., ...: Object-Oriented Modeling and Design. Prentice Hall, 1991.
17. Booch G.: Object-Oriented Analysis and Design with Applications, Second Edition. Addison-Wesley, 1994.
18. Jacobson I., ...: Object-Oriented Software Engineering: A Use Case Driven Approach. Addison-Wesley, 1992.

URLs

19. UML: <http://www.rational.com/uml>
20. OMG's UML Revision Task Force: <http://uml.shl.com>
21. RUP: <http://www.rational.com/products/rup>
22. OCL: <http://www-4.ibm.com/software/ad/standards/ocl.html>
23. OO Linkz: http://www.objenv.com/cetus/oo_oaa_ood_methods.html

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