Introduction to UML

Martin Nečaský
Dept. of Software Engineering
Faculty of Mathematics and Physics
Charles University in Prague
What is UML?

- Unified Modeling Language
- standard graphical notation for modeling software systems from different viewpoints
  - architecture
  - data structures
  - processes
  - functions
  - states
  - communication
  - etc.
- and different levels of abstraction
  - conceptual
  - implementation
What UML is not?

- replacement for textual programming languages
  - at least nowadays
- methodology
  - it does not say how to use it
- universal language
  - it is not a single language for any problem
Why UML?

- (standardized) graphical notation is a natural way of communication and understanding between different stakeholders and inside a development team
  - ISO standard
- allows to highlight important properties and features while avoiding unnecessary details
- analysts, designers, architects, developers started to use it widely
- well supported by different CASE tools
Classification of UML Diagram Types

- **Class Diagram**
- **Profile Diagram**
- **Composite Structure Diagram**
- **Component Diagram**
- **Deployment Diagram**
- **Object Diagram**
- **Package Diagram**
- **Structure Diagram**
- **Behavior Diagram**
- **Interaction Diagram**
- **Interaction Overview Diagram**
- **Timing Diagram**
- **Communication Diagram**
- **State Machine Diagram**
- **Use Case Diagram**
- **Activity Diagram**
- **Sequence Diagram**