UML Diagram Types

Dynamic Models
- activity diagrams
- statechart diagrams
- interaction diagrams
  - sequence diagrams
  - collaboration diagrams
- use case diagrams

Structural Models
- class diagrams
- *object diagrams*
- packages

Architectural Models
- component diagrams
- deployment diagrams

Structural Family: Object Diagram

def'n: *shows a set of objects and their relationships at a point in time*
- model instances of things contained in class diagram
- static frame of dynamic storyboard represented by interaction diagram
- abstraction:instance as 1:many

Object Diagram

Contents of Object Diagram
- objects: instance of a class
- links: relationship between objects

Convention
- rectangle

Object Naming

- name
  - unique instance name:abstraction name
  - unique instance name :package name::abstraction name
  - name is underlined
- anonymous: no unique instance name (e.g., :Frame)
- orphan: no abstraction name (e.g., agent:)
- sometimes, just a simple name is appropriate if the class is obvious in the given context
- for simplicity, always name instance, class, and package (if package exists)

Common Modeling Techniques

- freeze a running system, set of objects, each in a specific state, each in a particular relationship to other objects
- especially useful for modeling complex data structures
- cannot completely specify the object structure of a system

To Model

- Identify mechanism to model
- Identify classes, interfaces, other elements and identify relationships
- Consider a scenario and freeze at a moment in time
- Expose state and attribute values
- Expose links, representing instances of associations

To Reverse Engineer

- Choose target system
- Stop execution at a moment in time (perhaps from a scenario)
- Identify interesting behavior in freeze-frame
- Expose states, links, attributes values

Hints and Tips

- Focus on one aspect of static view
- Remember, that one frame of a dynamic storyboard is represented
- Ensure that object diagram is minimalist. That is, it contains only relevant information