

UNIFIED MODELING LANGUAGE



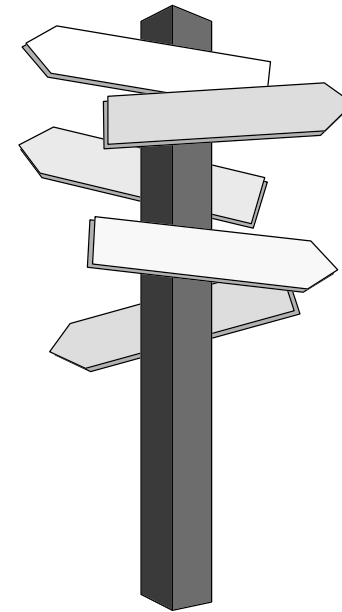
Aitecon

General Extension Mechanisms

Radovan Červenka, October 1998 (version 0.04)

Context

- ✓ Introduction
- ✓ Generic Mechanisms
- ✓ Use Case Modeling
- ✓ Static Structure Modeling
- ✓ Dynamic Behavior Modeling
- ✓ Interaction Modeling
- ✓ Physical Structure Modeling
- ➔ ■ **General Extension Mechanisms**



General Extension Mechanisms

→ mechanisms enabling a user to extend the language at modeling time

- new semantics
- new properties
- new element types

UML Extension

- a new language arose from the UML by exploitation extension mechanisms
- defined for a specific domain or process

Constraint and Comment

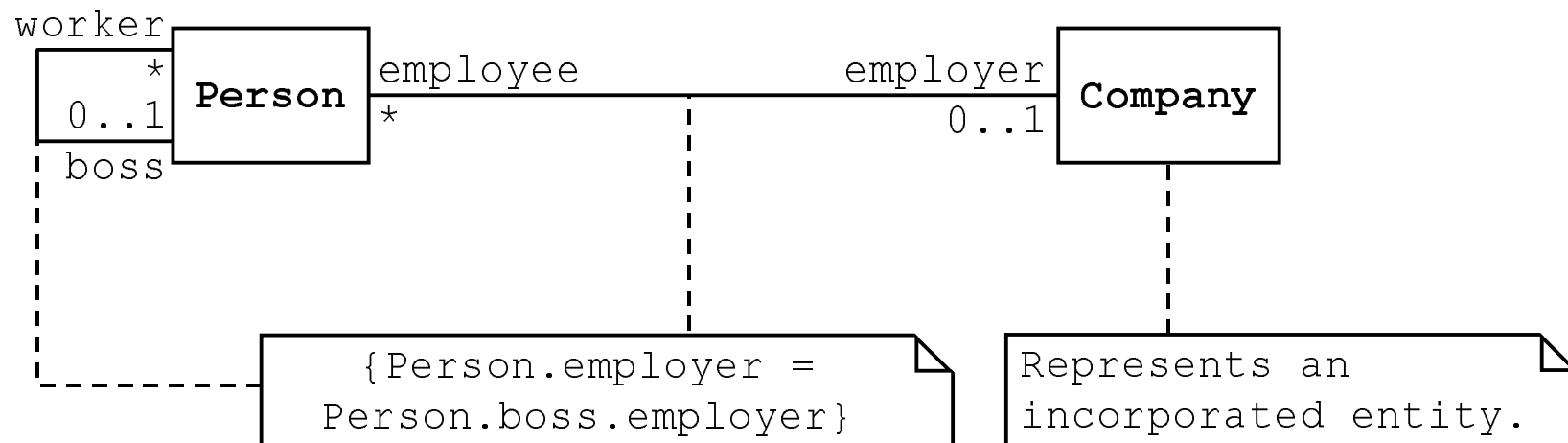
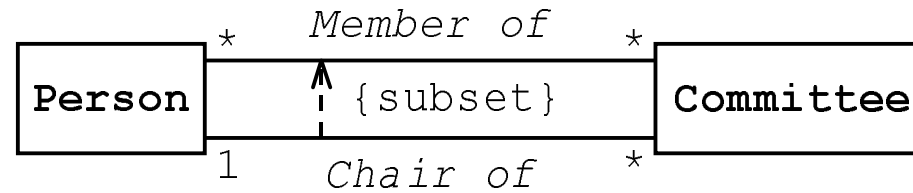
Constraint

- semantics relationship among model elements specifying conditions that must be maintained as true
- ⇒ extends the semantics of elements
 - can be written in any language, e.g. *OCL*
 - notation: text string in braces ({ })
 - can be used as an element in the list
 - ⇒ it applies to all subsequent elements

Comment

- a text string attached directly to a model element
 - syntactically equivalent to a constraint written in the language “text”
 - readable for humans but not conceptually executable

Constraint and Comment Examples



Element Properties

- a set of any values attached to a model element
- ⇒ extends the properties of element types
- notation: { *keyword = value, keyword = value, ...* }
 - a keyword (*tag*) identifies a type of property
 - a value determines property's value
- if the type of property is *Boolean* and a value is omitted
 - ⇒ *True*
- can be used as an element in the list
 - ⇒ it applies to all subsequent elements

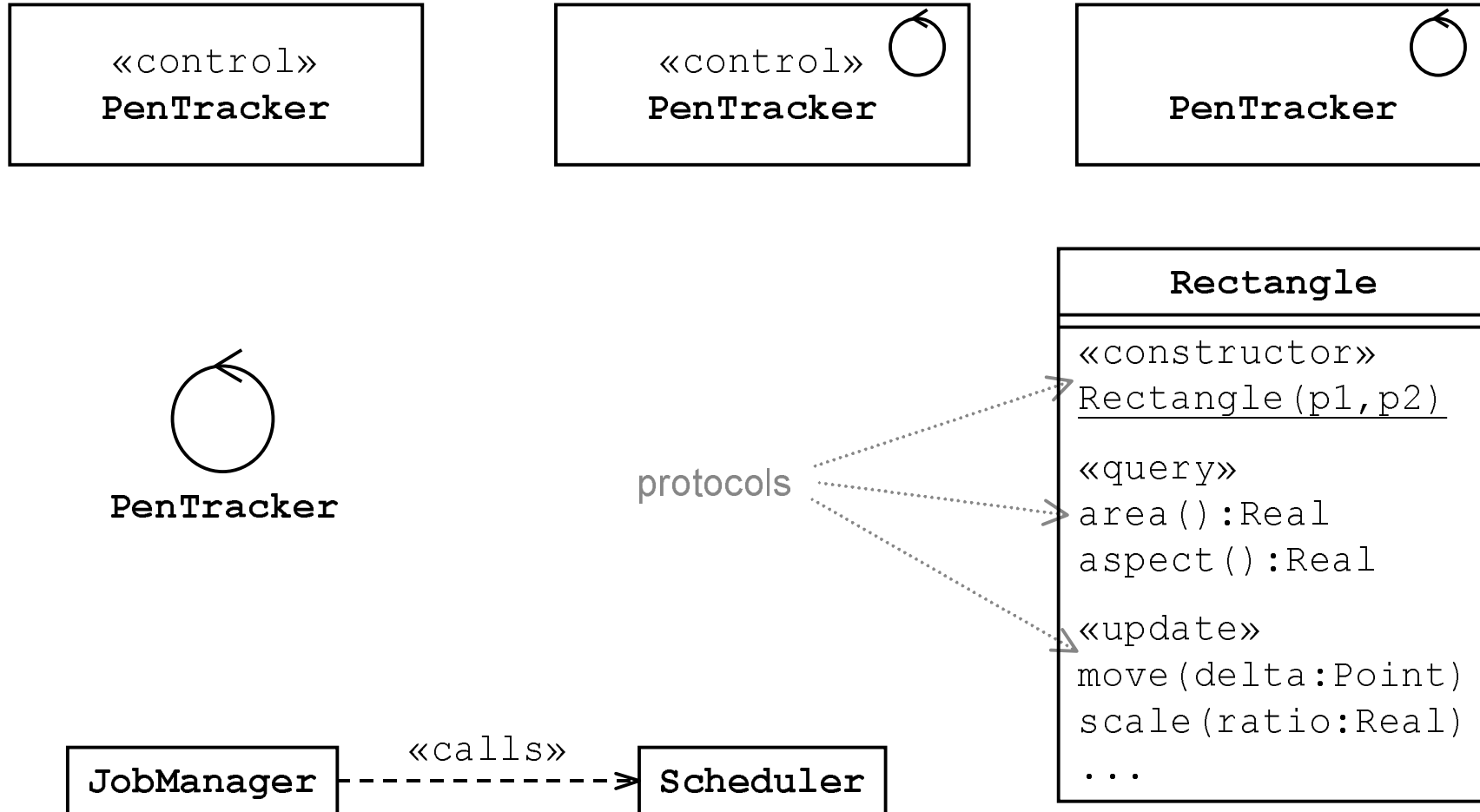
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{author=„John“, deadline=15-June-98, status=Design}
```

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{abstract}
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Stereotype

- a new type of modeling element that is introduced at modeling time
- it is specialization (a special meaning) of existing modeling element with the same form but with a different intent
- ⇒ extends a set of element types
 - can be attached to any element type
 - can be used as an element in the list
 - ⇒ it applies to all subsequent elements
 - notation: «*stereotype name*» and/or an icon

Stereotype Examples



Summary

- **Constraint**
- **Comment**
- **Element Properties**
- **Stereotype**