

New Domain, Less Pain: Integrated Specification of Model Edit Operations



Eclipse DemoCamp Bonn (24.11.2014)

Dennis Reuling - Christopher Pietsch



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2 Motivation

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4 Tool Demo

5 Summary

Software Engineering Group, University of Siegen

Main research area: Model driven software development

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Section 1

Introduction



SiLift

D. Reuling
C. Pietsch

Introduction

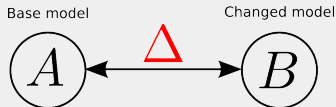
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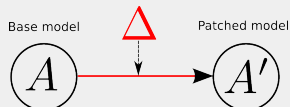
Tool Demo

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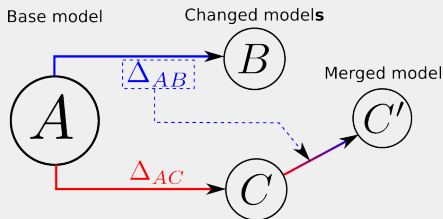
Differencing



Patching



Merging



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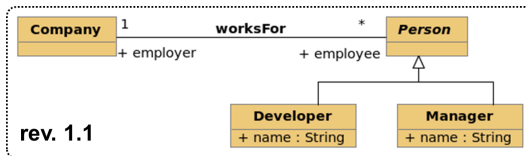
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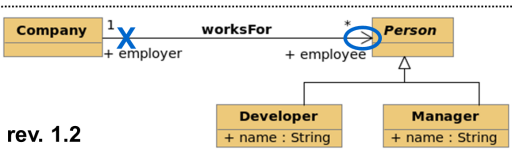
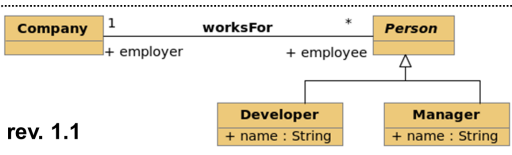
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Design Decision:
Restrict association
navigability



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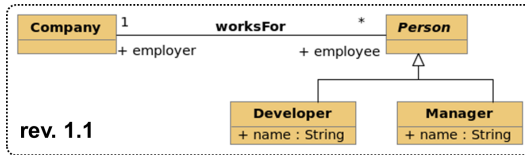
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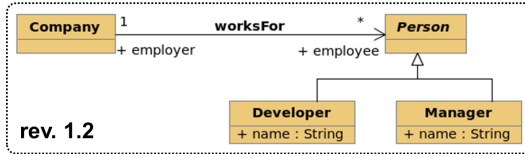
Example

Tool Demo

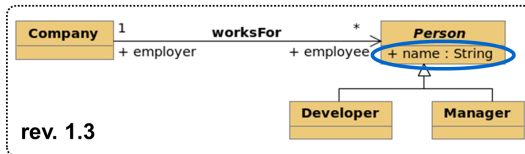
Summary



Design Decision:
Restrict association
navigability



Refactoring:
Pull up attribute



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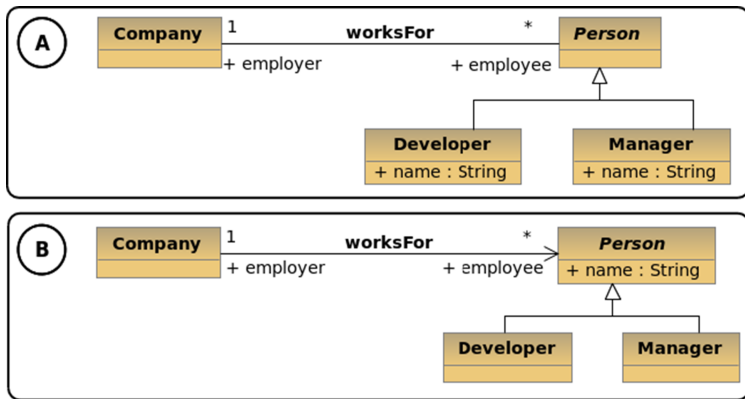
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What textual difference tools report...

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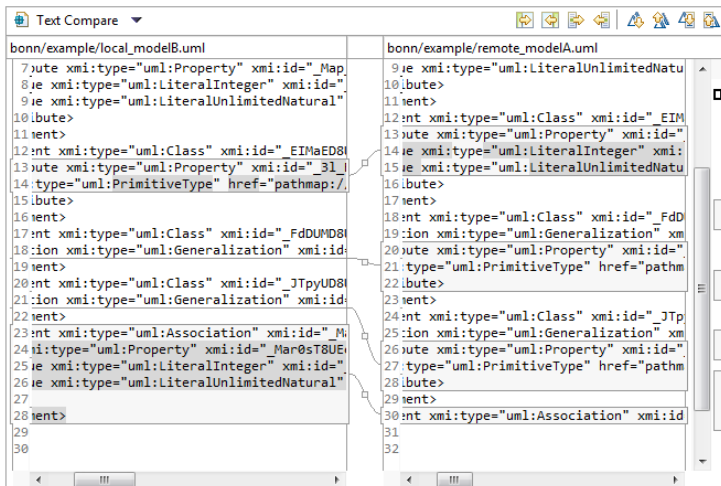
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```

Text Compare
bonn/example/local_modelB.uml      bonn/example/remote_modelA.uml
7:ute xmi:type="uml:Property" xmi:id="_Map
8:ie xmi:type="uml:LiteralInteger" xmi:id="
9:ie xmi:type="uml:LiteralUnlimitedNatural"
10:bute>
11:ent>
12:nt xmi:type="uml:Class" xmi:id="_EIMaED8
13:ute xmi:type="uml:Property" xmi:id="
14:type="uml:PrimitiveType" href="pathmap:/
15:bute>
16:ent>
17:nt xmi:type="uml:Class" xmi:id="_FdDUMD8
18:ion xmi:type="uml:Generalization" xmi:id="
19:ent>
20:nt xmi:type="uml:Class" xmi:id="_JTPyUD8
21:ion xmi:type="uml:Generalization" xmi:id="
22:ent>
23:nt xmi:type="uml:Association" xmi:id=" M
24:i:type="uml:Property" xmi:id="_Mar0sT8UE
25:ie xmi:type="uml:LiteralInteger" xmi:id="
26:ie xmi:type="uml:LiteralUnlimitedNatural"
27:
28:ent>
29
30
9:ie xmi:type="uml:LiteralUnlimitedNatu
10:bute>
11:ent>
12:nt xmi:type="uml:Class" xmi:id="_EIM
13:ute xmi:type="uml:Property" xmi:id="
14:ie xmi:type="uml:LiteralInteger" xmi:
15:ie xmi:type="uml:LiteralUnlimitedNatu
16:bute>
17:ent>
18:nt xmi:type="uml:Class" xmi:id="_FdD
19:ion xmi:type="uml:Generalization" xm
20:ute xmi:type="uml:Property" xmi:id="
21:type="uml:PrimitiveType" href="pathm
22:bute>
23:ent>
24:nt xmi:type="uml:Class" xmi:id="_JTp
25:ion xmi:type="uml:Generalization" xm
26:ute xmi:type="uml:Property" xmi:id="
27:type="uml:PrimitiveType" href="pathm
28:bute>
29:ent>
30:nt xmi:type="uml:Association" xmi:id
31
32

```

What EMFCompare reports. . .

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Structure Compare

- > <Model> Model
 - > <Class> Person
 - <Property> name [ownedAttribute move]
 - > <Class> Developer
 - <Property> name [ownedAttribute delete]
 - > <Association> worksFor
 - <Property> employer : Company [ownedEnd move]

EMF Model Compare

bonn/example/local_modelB.uml	bonn/example/remote_modelA.uml
<ul style="list-style-type: none"> <Model> Model <ul style="list-style-type: none"> <Package Import> <Class> Company <Class> Person <ul style="list-style-type: none"> <Property> name <Class> Developer <ul style="list-style-type: none"> <Generalization> Person <Class> Manager <ul style="list-style-type: none"> <Generalization> Person <Association> worksFor <ul style="list-style-type: none"> <Property> employer : Company 	<ul style="list-style-type: none"> <Model> Model <ul style="list-style-type: none"> <Package Import> <Class> Company <Class> Person <ul style="list-style-type: none"> <Property> employer : Company <Class> Developer <ul style="list-style-type: none"> <Generalization> Person <Property> name <Class> Manager <ul style="list-style-type: none"> <Association> worksFor

Diagram illustrating the comparison of two UML models (local_modelB.uml and remote_modelA.uml) using the EMF Model Compare tool. The comparison shows differences in the structure of the models, specifically in the properties and associations of the classes.

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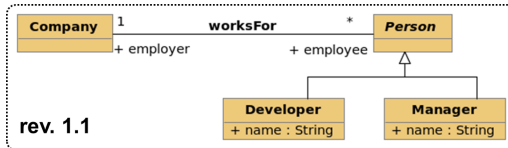
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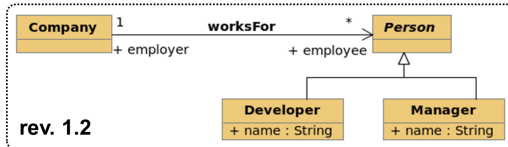
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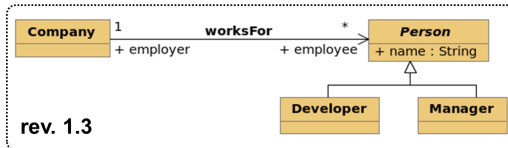
Summary



Design Decision:
Restrict association
navigability



Refactoring:
Pull up attribute



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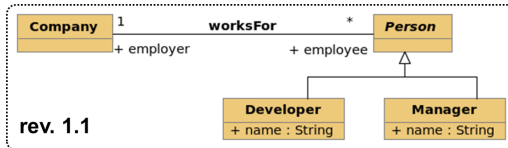
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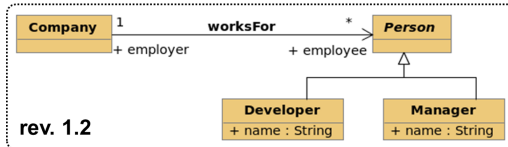
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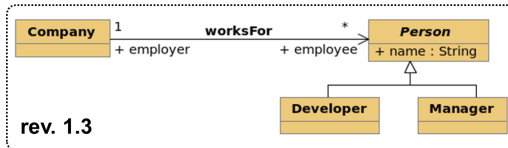
Design Decision:
Restrict association
navigability

Edit Operation



Refactoring:
Pull up attribute

Edit Operation



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Section 2

Motivation

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SiLift Tools

Support for High-level model-based

- Differencing
- Patching
- Merging

Contact/More information

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- mohrndorf@informatik.uni-siegen.de

Personal

- Now ;-)