Generic Name Resolution with Metamodels

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Software Assessment

Development

Assessment
Modelling source code

middleOf: a and: b
  | sum |
sum := a + b.
^ sum / 2

#middleOf:and:
  ^st
  /st
  :=
  /
  +
  -
  a b
  sum
  sum
  2
Resolving symbols

Resolving symbols

#middleOf:and:

a
b
sum

st
^st
:=
/

sum
+
sum
2

a
b
sum
Moose Toolchain
FAMIX Metamodel

:FAMIXClass
  name : String='JavaClassExample'

:FAMIXMethod
  name : String='setName'

:FAMIXMethod
  name : String='getName'

:FAMIXAttribute
  name : String='name'

:FAMIXParameter
  name : String='n'

:FAMIXType
  name : String='String'
Core metamodel
Resolving a symbol
Lookup

- Symbol → Method scope → Class scope → Superclass scope → Package scope
Select

Symbol

private?  protected?  public?
Case studies

Pharo (smalltalk)

Java (subset)

Cobol