Object-Oriented Analysis 2: Associations and Attributes

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Associations

• Relationships between instances of classes
• Representation of associations in UML
• Finding associations
  – Common associations list
  – “Need to know” associations
  – Avoiding unneeded associations
Association Example
More on Associations

- Naming associations
  - Role names
  - Navigability
- Multiplicity
- Multiple associations
Multiple Associations with Role Names and Multiplicities
Attributes

• An attribute is a logical data value of an object
  – Simple attributes (primitive types)
  – Data types
• Complex data types vs. classes
• Avoiding “design creep”
  – Use associations between (instances of) classes, not foreign-object keys
Simple and Complex Data Types

Simple datatype

Complex datatypes

<<datatype>>
Duration
minutes : Integer

<<datatype>>
Time
hour : Integer
minute : Integer
AMorPM : String

<<datatype>>
Date
month : String
day : Integer
year : Integer
Data Types as Associations/Attributes