PB007 Week 05

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1 Analytical Class Diagram

Class Diagram

- Static view
- Modelling of:
  - Classes
  - Attributes
  - Operations
  - Relationships

Class diagram types

Analysis class diagram

- only **basic classes** representing key system entities, related to requirements
- no implementation details
- helps to **identify key** domain **elements**
- should remain readable and easy to understand
- limited number of classes, attributes, methods…

Design class diagram

- **all classes**
- adds implementation details
- helps to **program** the system
- language specific constructs
- can have exteremely large number of classes (attributes, methods…)

Do‘s and don‘ts

Do‘s

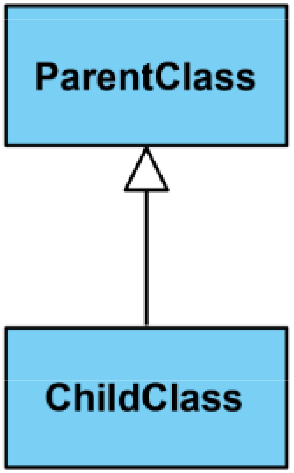
- Representative name
- High cohesion
  - contains logically linked attributes/methods
  - single responsibility
- Low coupling
  - few connections to other objects

Don‘ts

- Complex classes managing other classes
- Too complex inheritance
- Implemntation detials
  - Types
  - Constructors
  - Properties (getters, setters)
  - Language-specific constructs

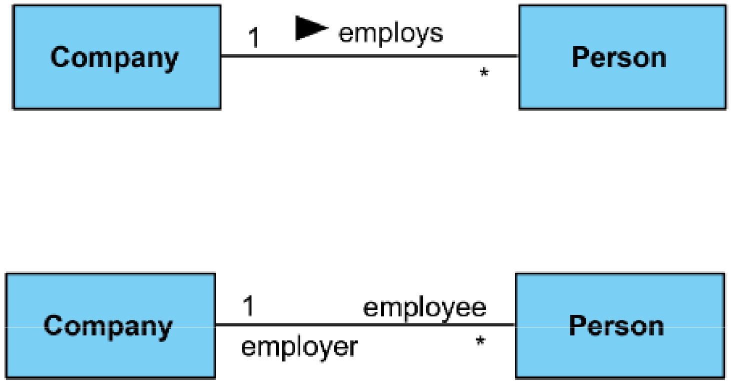
Relationships between classes

Generalization

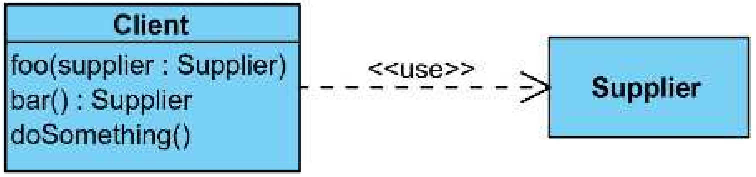


Association

multiplicity: min..max	
0..1	zero or 1
1	exactly 1
0..*	zero or more
1..*	1 or more
1..6	1 to 6

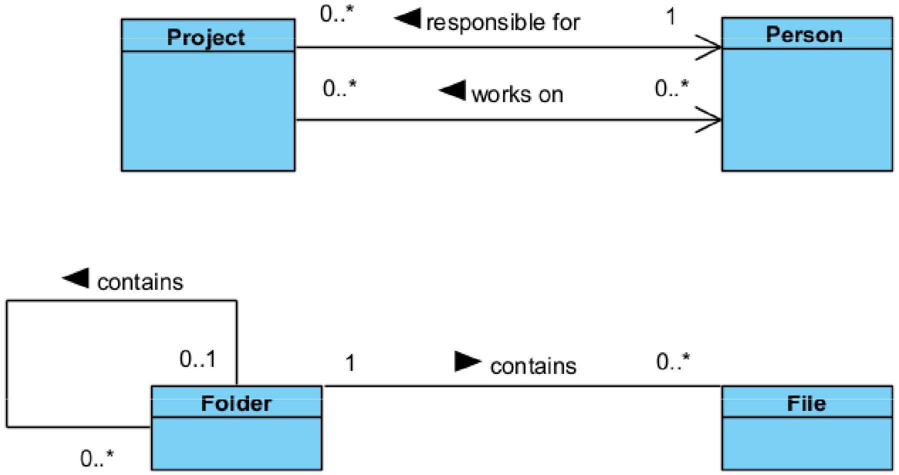


Dependency

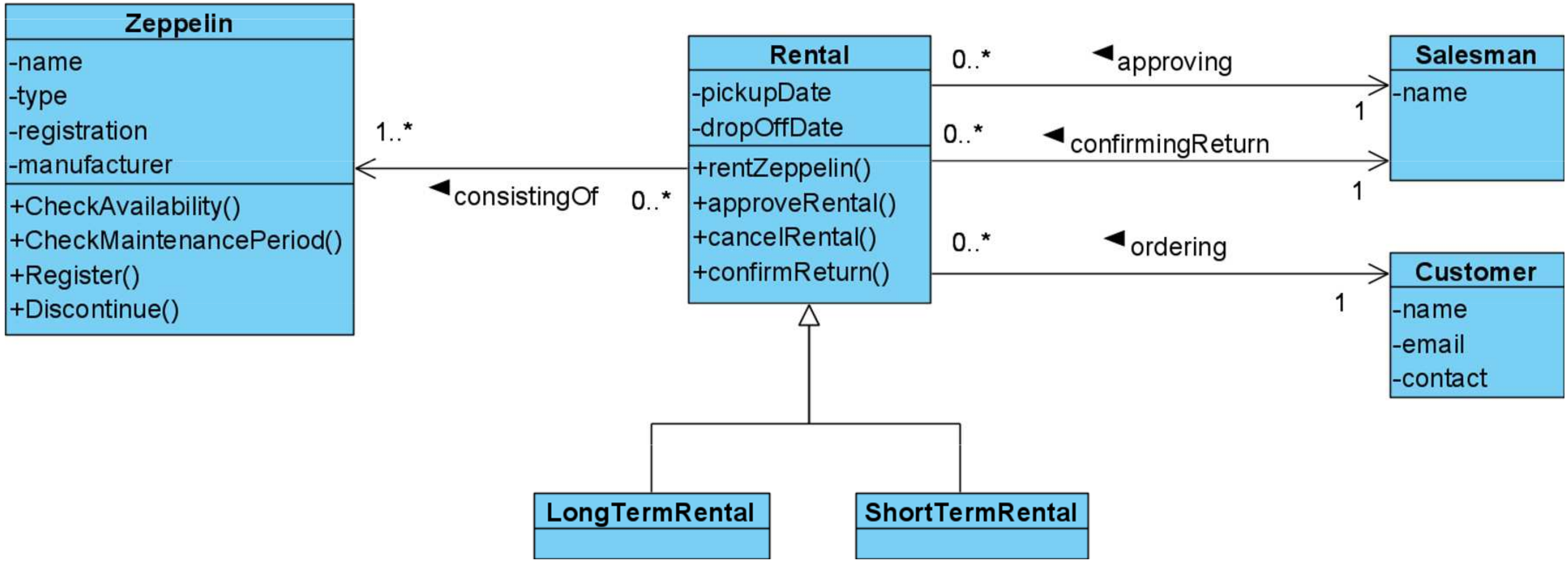


Association

- Multiple and reflexive



Example


Zeppelin
-name
-type
-registration
-manufacturer
+CheckAvailability()
+CheckMaintenancePeriod()
+Register()
+Discontinue()
1..*
◀consistingOf
0..*
Rental
-pickupDate
-dropOffDate
+rentZeppelin()
+approveRental()
+cancelRental()
+confirmReturn()
0..*
◀approving
1
0..*
◀confirmingReturn
1
0..*
◀ordering
1
Salesman
-name
Customer
-name
-email
-contact
LongTermRental
ShortTermRental

Pet Shop

- Create an analytic class diagram based on source code

Task for this week

- Review the **activity diagrams** from the previous session. Fix any problem.
- Create Analytical Class Diagram
- Update use case diagram
- Submit this week‘s report in homework vault week05 in format **surname1-surname2-surname3.pdf**
- If you have not yet set up your report generation in VP refer to week02