IntellAgile

Visualizing Concepts with a Domain Model

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Overview

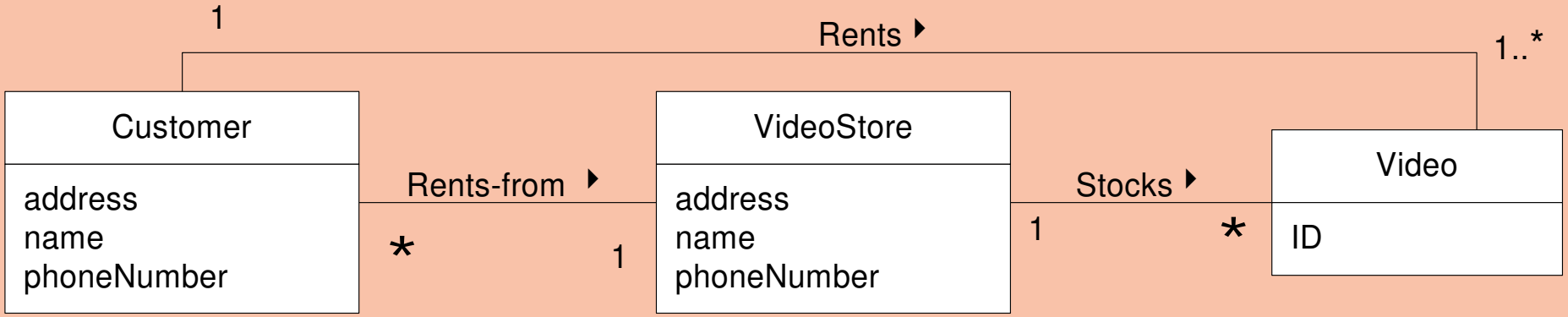
- A Domain Model visualizes noteworthy concepts or objects in the domain.

- You will be able to:
  - Read and write the UML class diagram notation for a Domain Model
  - Create a Domain Model
  - Apply guidelines
  - Relate it to other artifacts

DEFINITION & MOTIVATION: Domain Model

- A *Domain Model* visualizes, using UML class diagram notation, noteworthy concepts or objects.
  - It is a kind of "visual dictionary."
  - *Not* a picture of software classes.
- It helps us identify, relate and visualize important information.
- It provides inspiration for later creation of software design classes, to reduce "representational gap."

EXAMPLE: Partial Domain Model

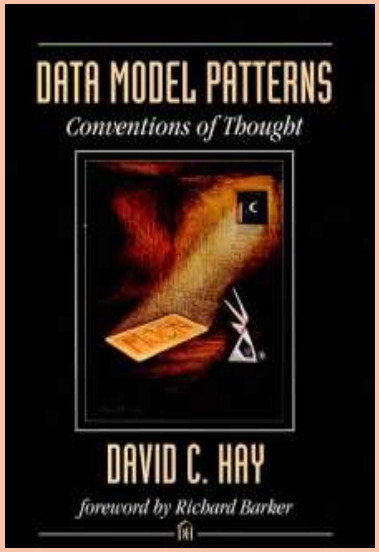


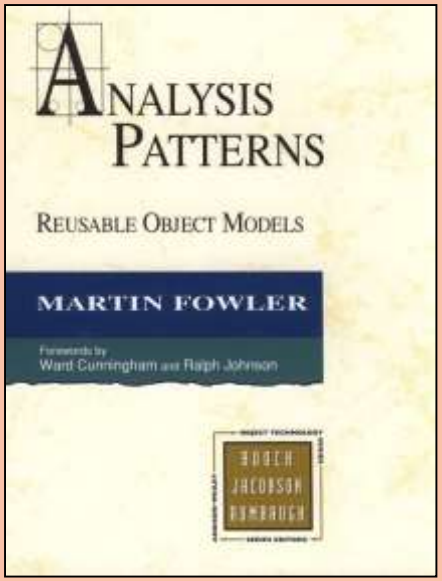
GUIDELINES: Finding Domain Concepts

- Candidate lists (see text, p. 134)

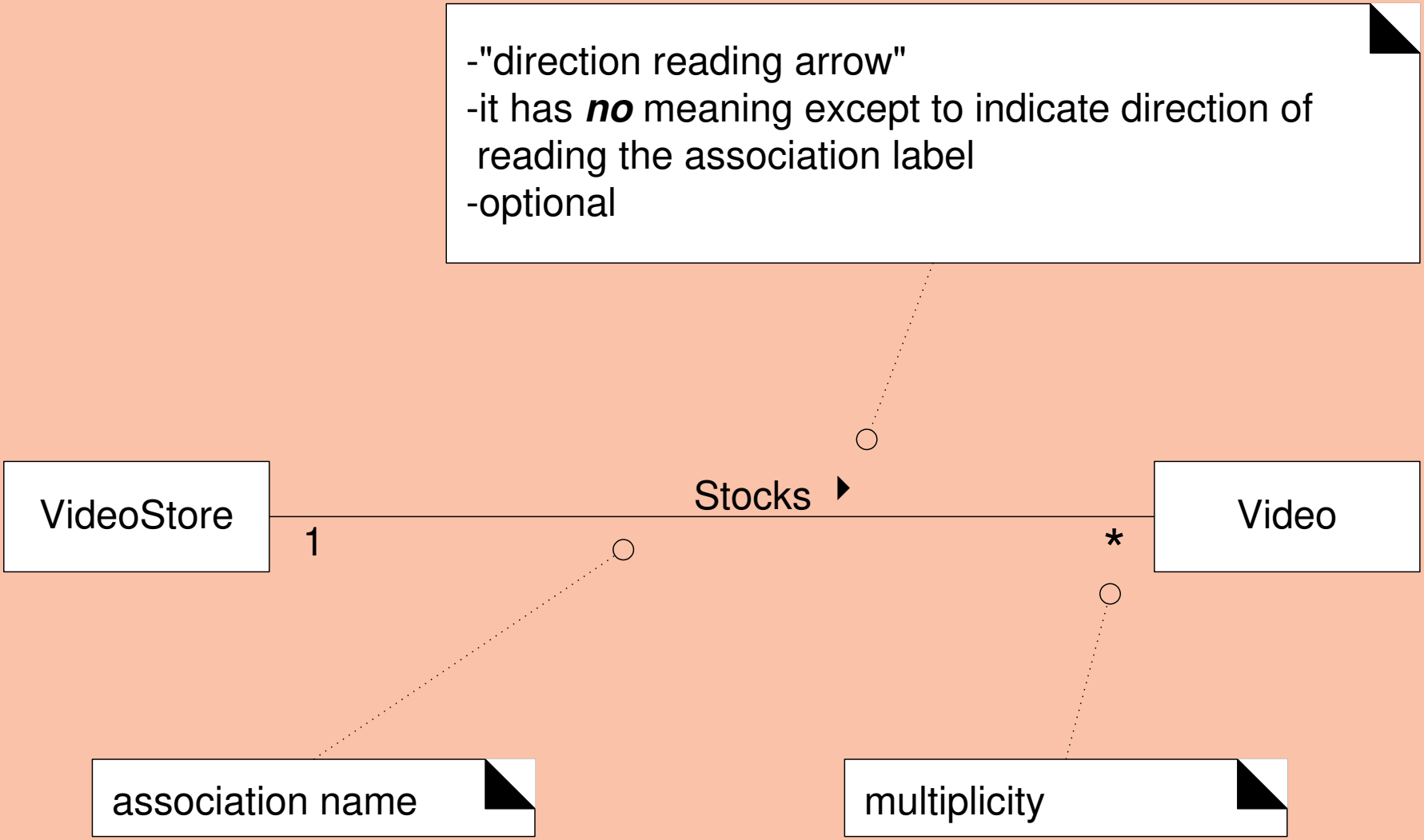
- "Abbott" Analysis; AKA Linguistic Analysis
  - Most simply, "pick out the nouns"

- Existing analysis patterns:

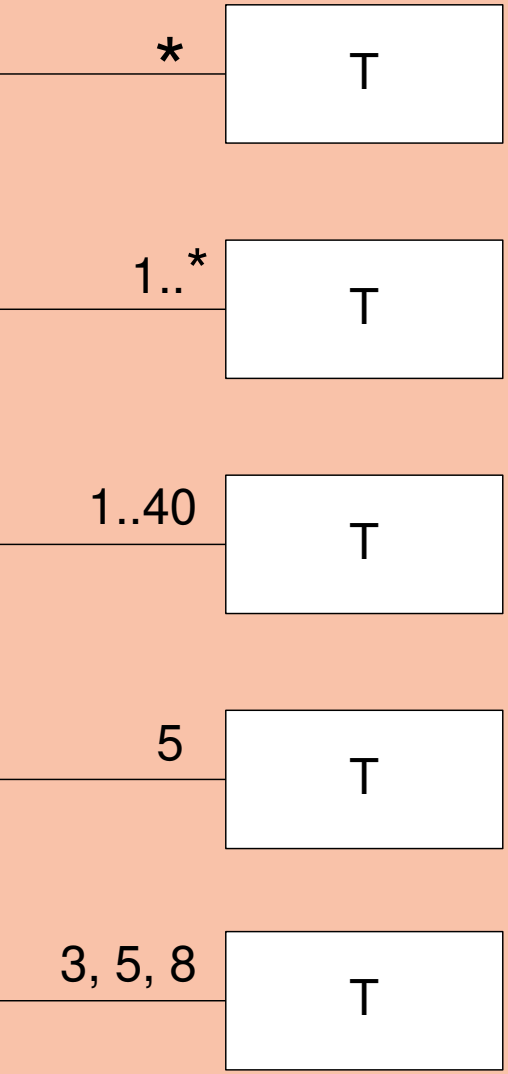


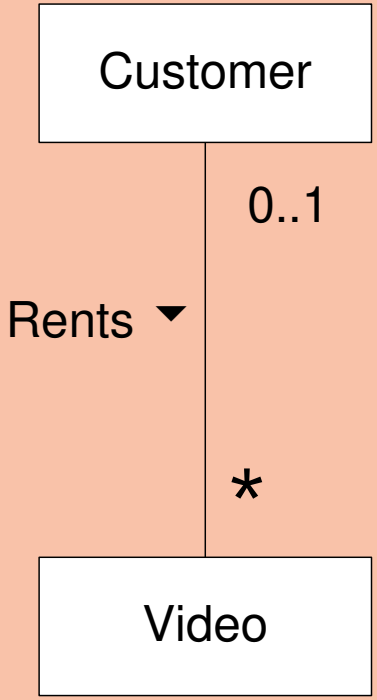


UML: Associations



UML: Multiplicity



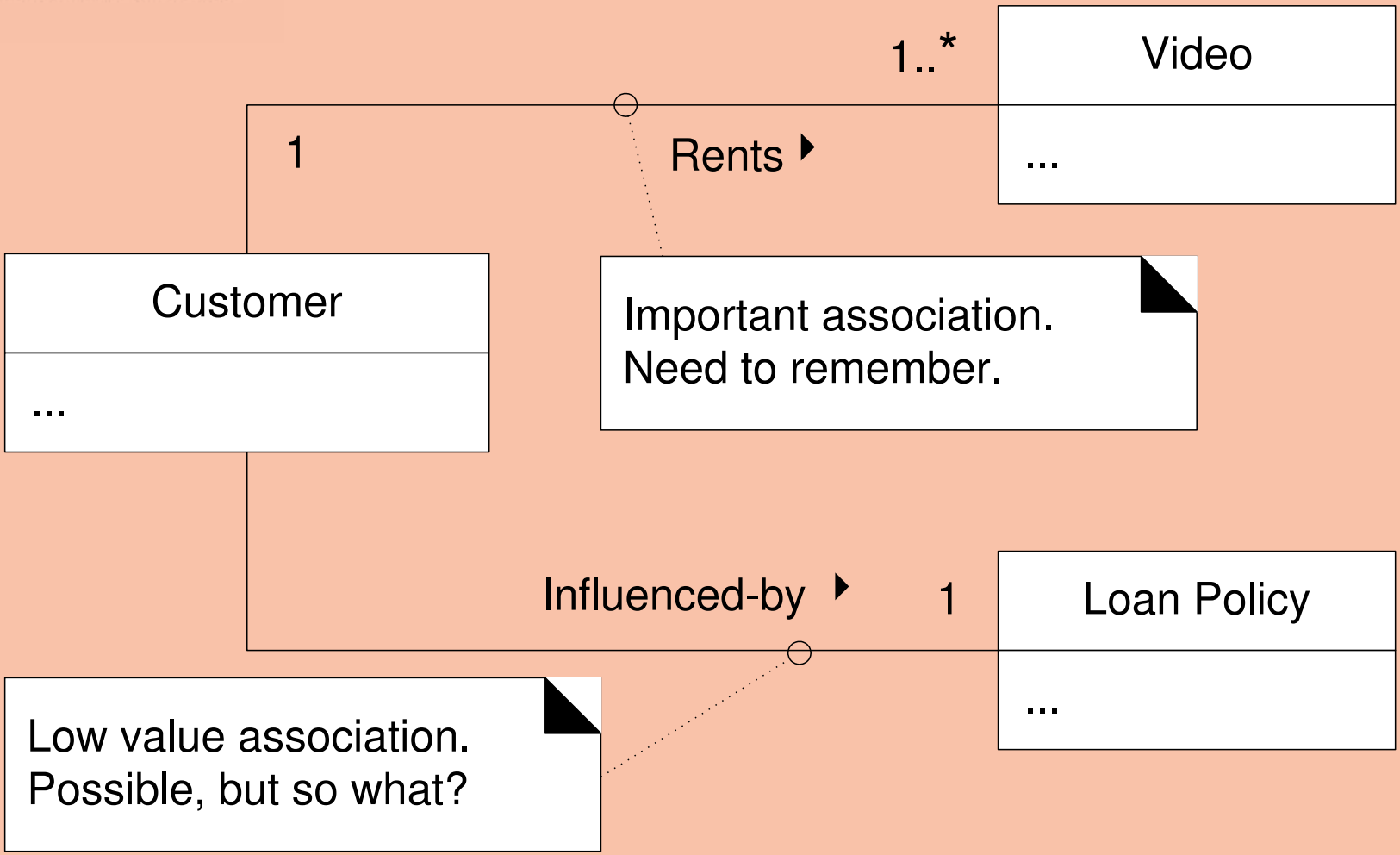


One instance of a Customer may be renting zero or more Videos.

One instance of a Video may be being rented by zero or one Customers.

GUIDELINES: Associations

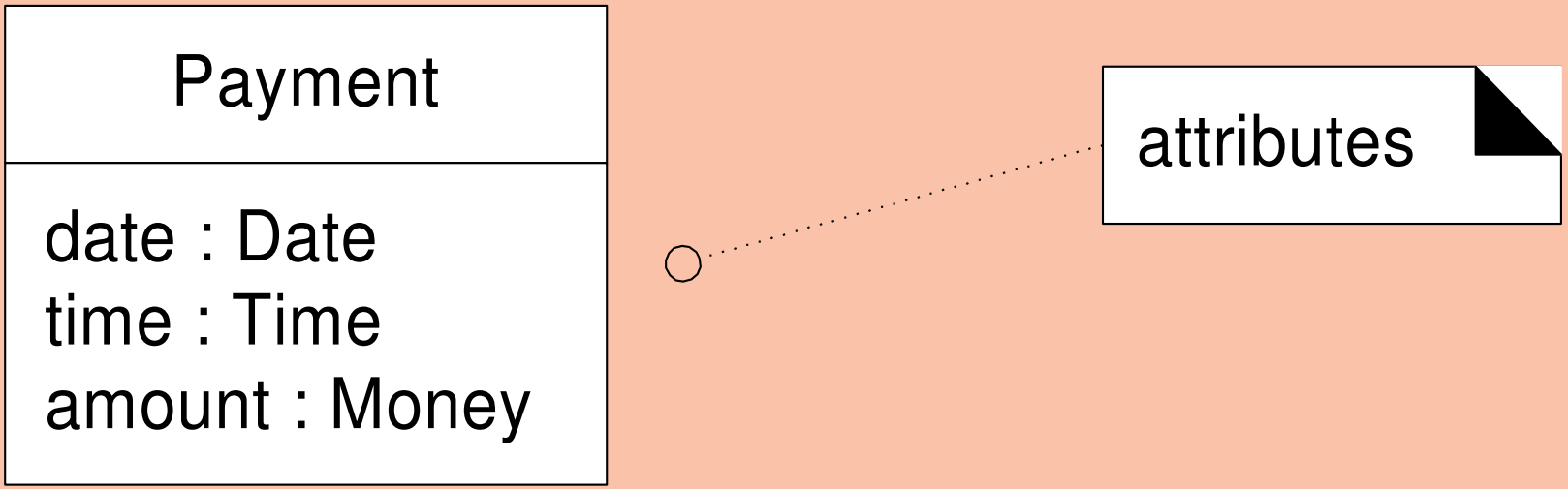
- Only add associations for *noteworthy* relationships. Literally, those for which making a "note" is worthy or business motivated.



UML and GUIDELINES: Attributes

- Show only “simple” relatively primitive types as attributes.

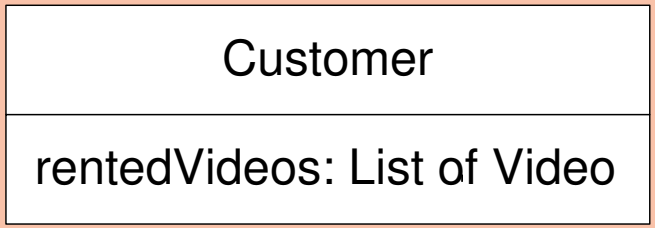
- Connections to other concepts are to be represented as associations, not attributes.



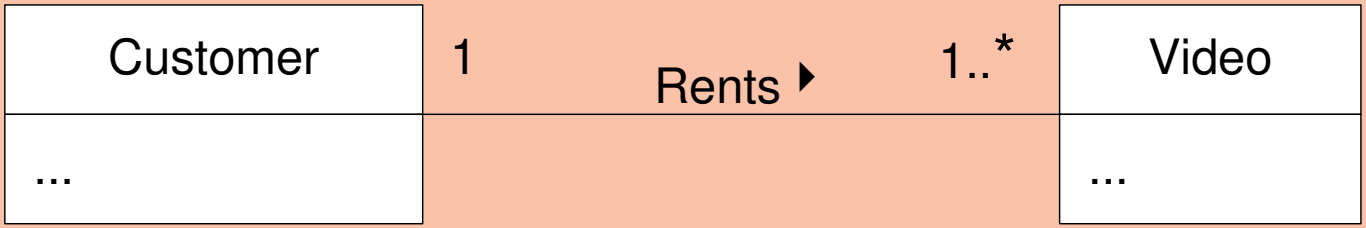
GUIDELINES: Attributes

- Why??

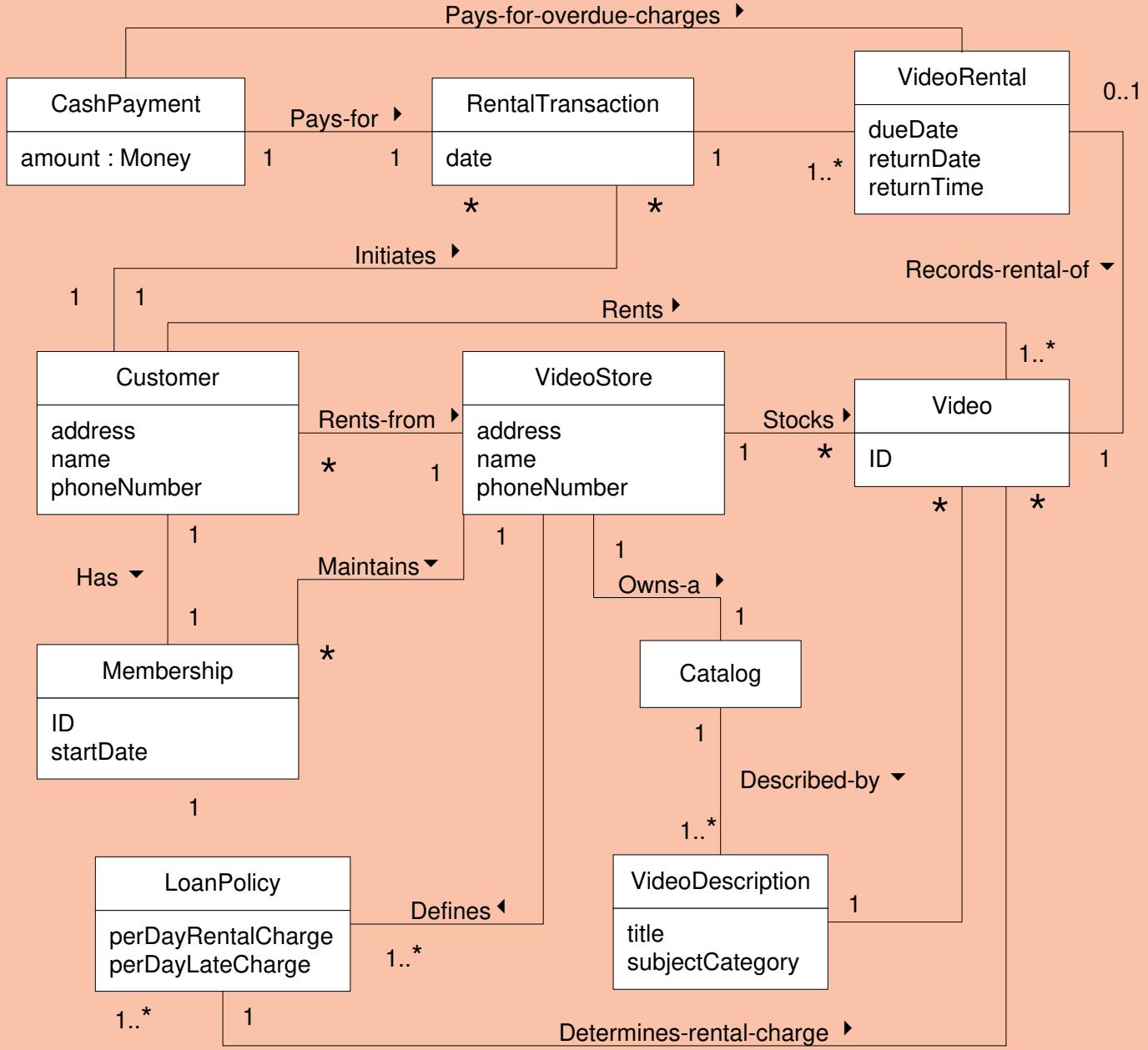
Worse



Better



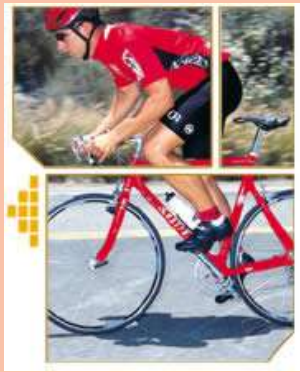
EXAMPLE: Domain Model



Notice how this can be viewed as a "visual dictionary." It *illustrates* concepts, words, things in a domain.

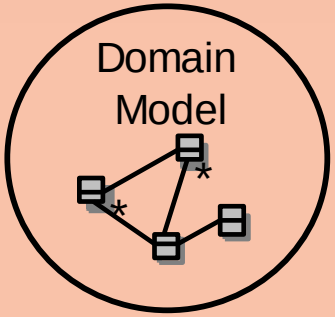
1. In small teams at the whiteboard, draw a partial Domain Model, limited to the Main Success Scenario of the *Process Sale* use case, and assuming iteration 1 simplifications.

   - Use the text's use case as the basis. p. 50
   - Apply the guidelines



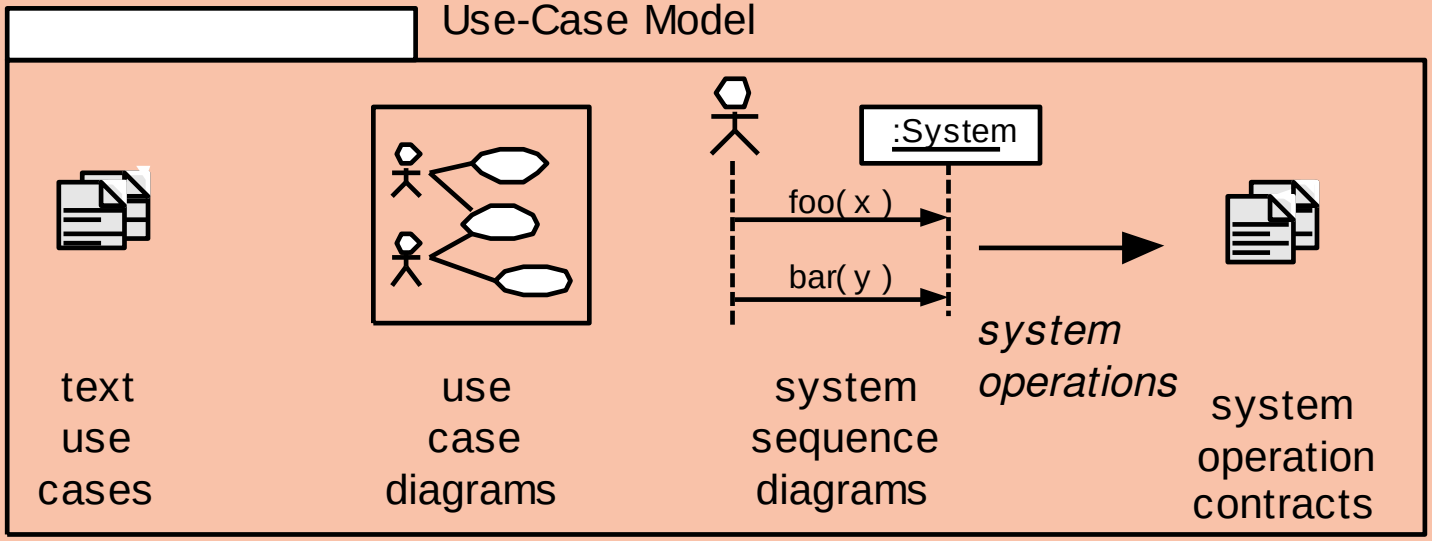
Artifacts in the UP Use-Case Model

Business Modeling

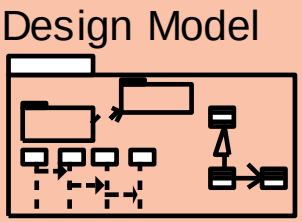


Partial artifacts, refined in each iteration.

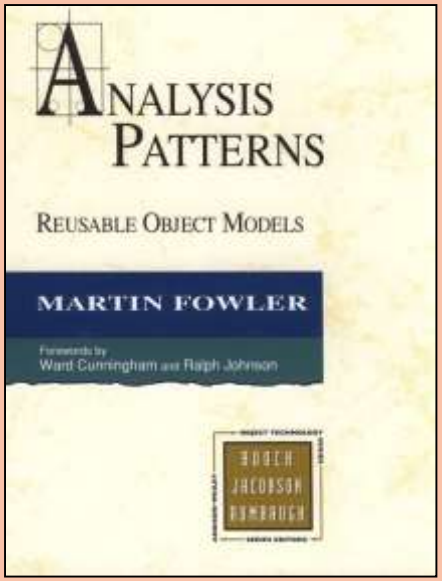
Requirements

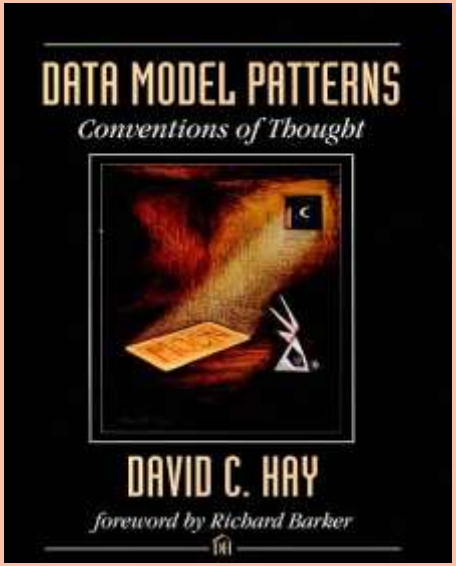


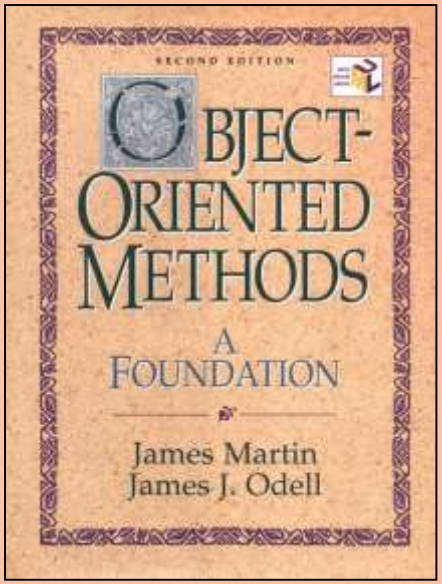
Design

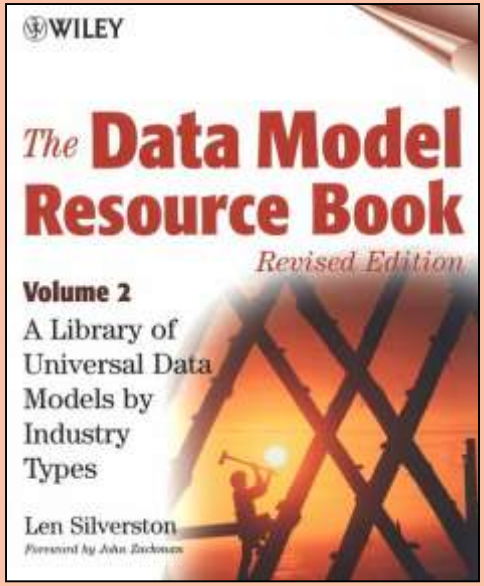


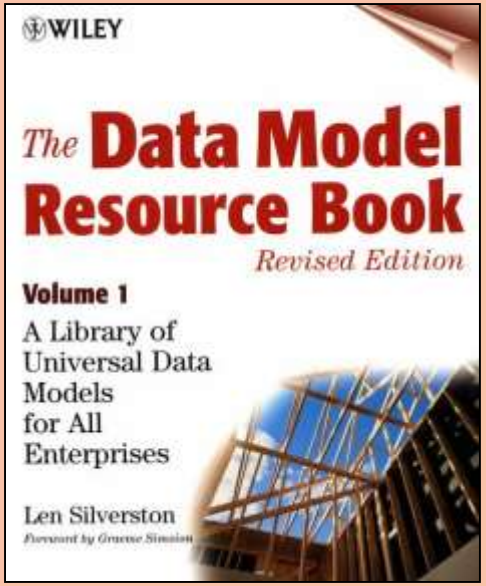
Recommended Resources



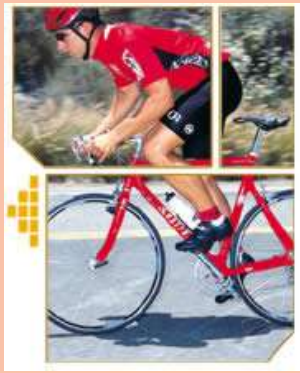








1. Without notes, draw all UP disciplines and artifacts discussed, and relate them.



1. Objectives assessment. Can you:
   - Read and write the UML class diagram notation for a Domain Model
   - Create a Domain Model
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   - Relate it to other artifacts