

# CLASS DIAGRAMS : GENERALIZATION AND READING

## Generalization

A generalization is a specific relationship between a general and a specific element. Generalization and specialization help with hierarchical structuring. If several business objects are supposed to be combined to one comprehensive item, generalization is the right tool (see Figure 3.35):



However, for workers we recommend structuring in package diagrams:

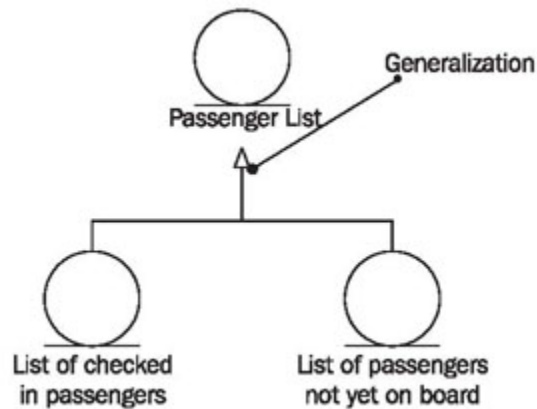


Figure 3.35 Class diagram with generalization

## Reading Class Diagrams

Figure 3.36 shows a small excerpt of a class diagram from our case study. It contains the classes *check-in employee* (1), *ticket* (2), and *boarding pass* (3), as well as their associations:

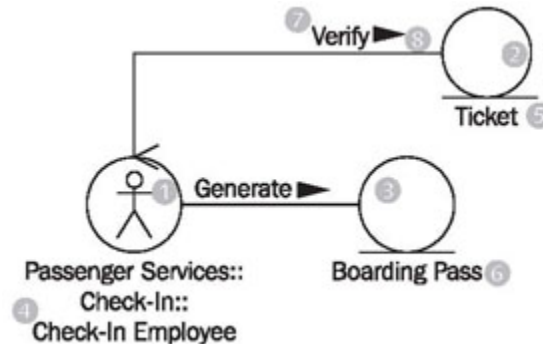


Figure 3.36 Class diagram

You can see by the label (4) of the worker symbol (1), that the check-in employee belongs to the organization unit check-in, which is a division of passenger services.

The labels that are written in front of the label for the worker, separated by double colons, indicate the organization units that the workers belong to. You can see that passenger services and check-in are organization units from the package diagram.

The labels of the business object symbols (5 and 6) show that we have two business objects: *ticket* (5) and *boarding pass* (6).

Associations between classes should be read in the following manner:

- A check-in employee (4) verifies (7) a ticket (5).

The small triangle (8) next to the name of the association (7) indicates the *direction* in which the name of the association is supposed to be read. All associations within class diagrams can be read in this way.

We do not use any multiplicities in class diagrams of the business-system model, meaning, for the benefit of clarity, we do not make any statements about the number of objects in classes that are involved in associations.

It is not yet important if a check-in employee issues one or several boarding passes. Important quantities can be included as comments. Quantities will be of interest later: in the IT-system model, which will be described in *Modeling IT Systems*.

Source : <http://sourcemaking.com/uml/modeling-business-systems/internal-view/class-diagram>