

Professional Development Award in
Software Development

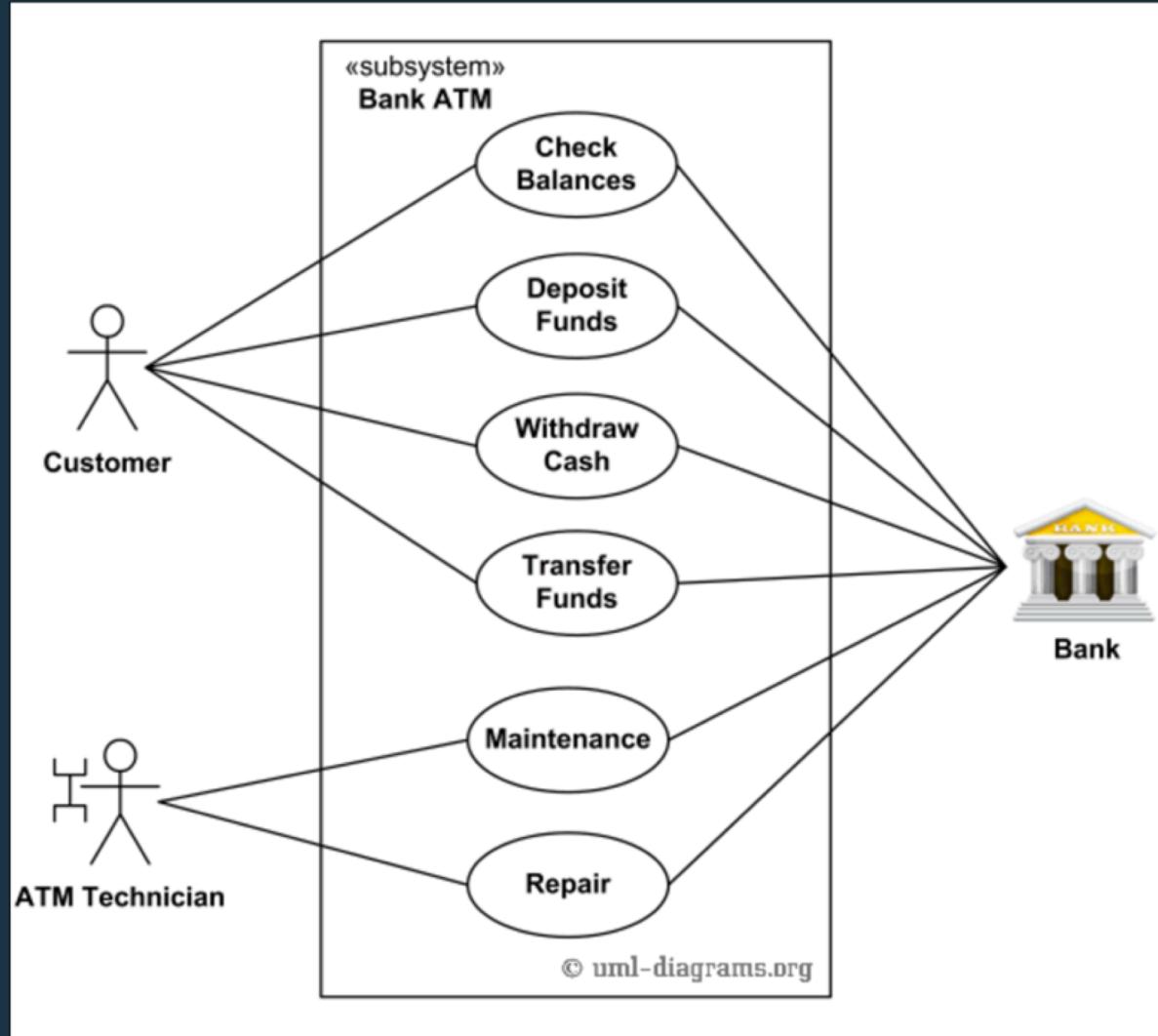
PDA Guidance



Focus

- ▶ Covering material specifically needed for the PDA
- ▶ Google is not your friend when it comes to the PDA
- ▶ Standardized approach = pass/fail criteria
- ▶ Copy of this guidance in repo

Use Case Diagram

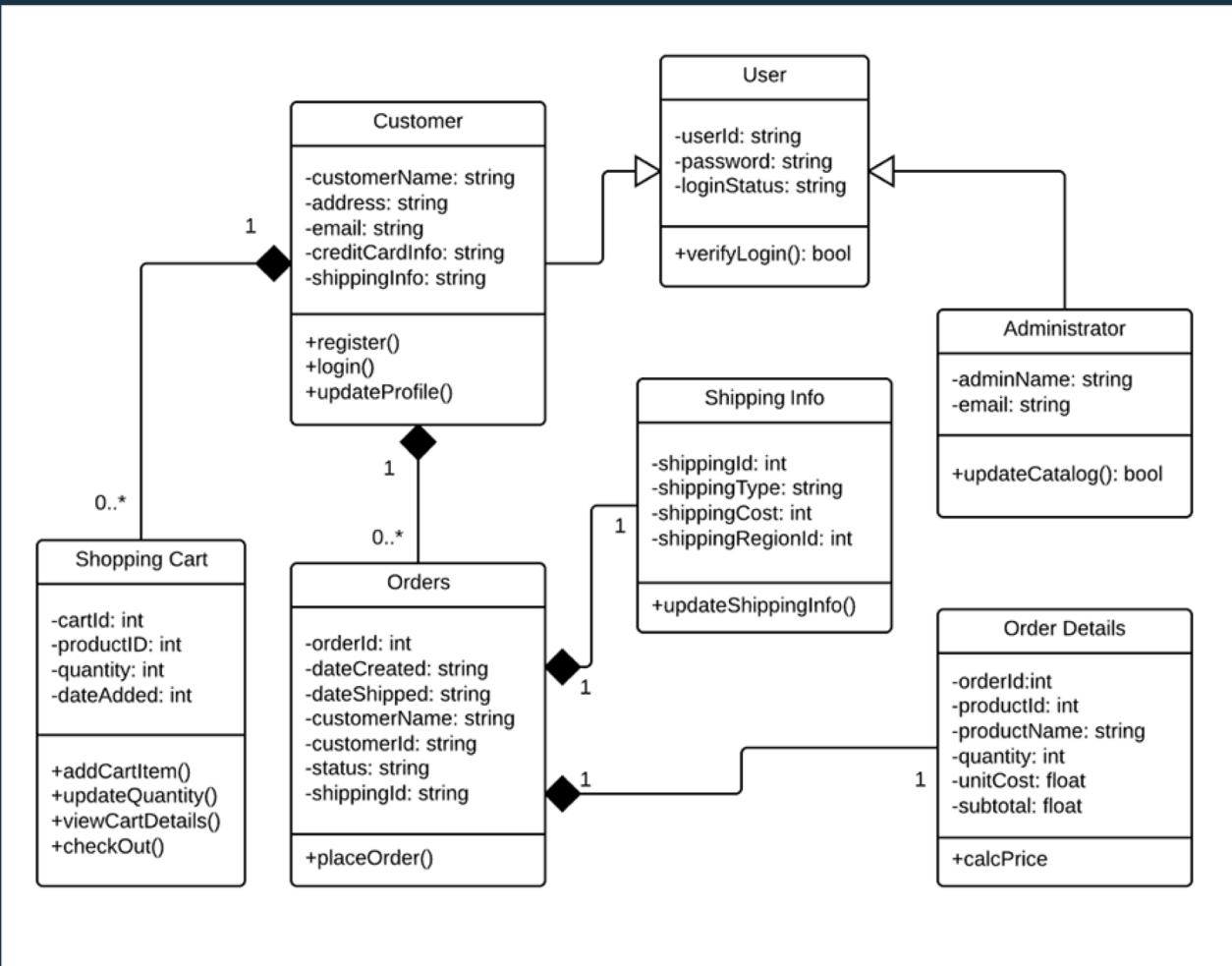


Use case diagrams give an overview of the usage requirements for a system.

Use case diagrams depict:

- ▶ Use cases (actions)
- ▶ Actors
- ▶ Associations
- ▶ System boundary boxes (optional)

Class Diagram

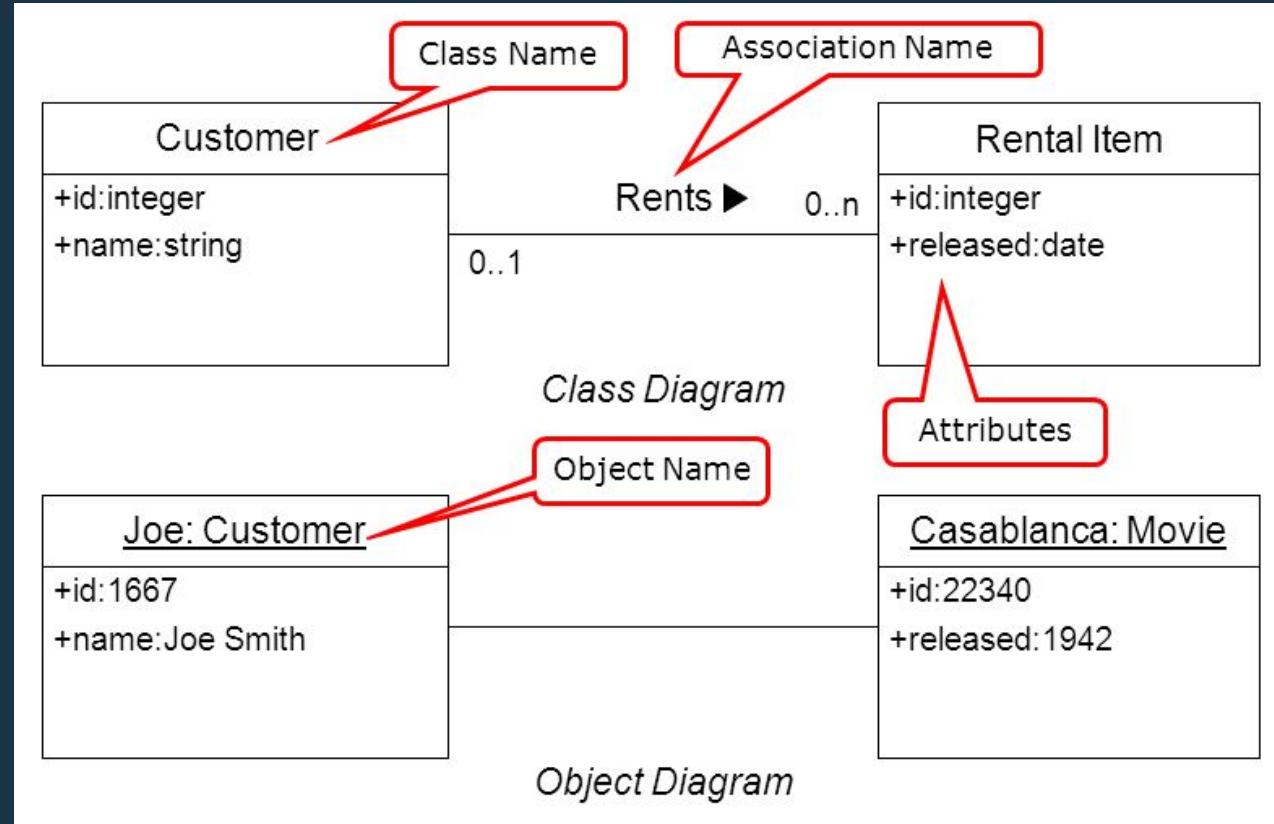


Class diagrams describe the structure of a system by showing the system's classes, their attributes, methods and the relationships.

Class diagrams should include:

- ▶ Name of each class
- ▶ Attributes of each class
- ▶ Type of each attribute
- ▶ Methods
- ▶ Relationships

Object Diagram

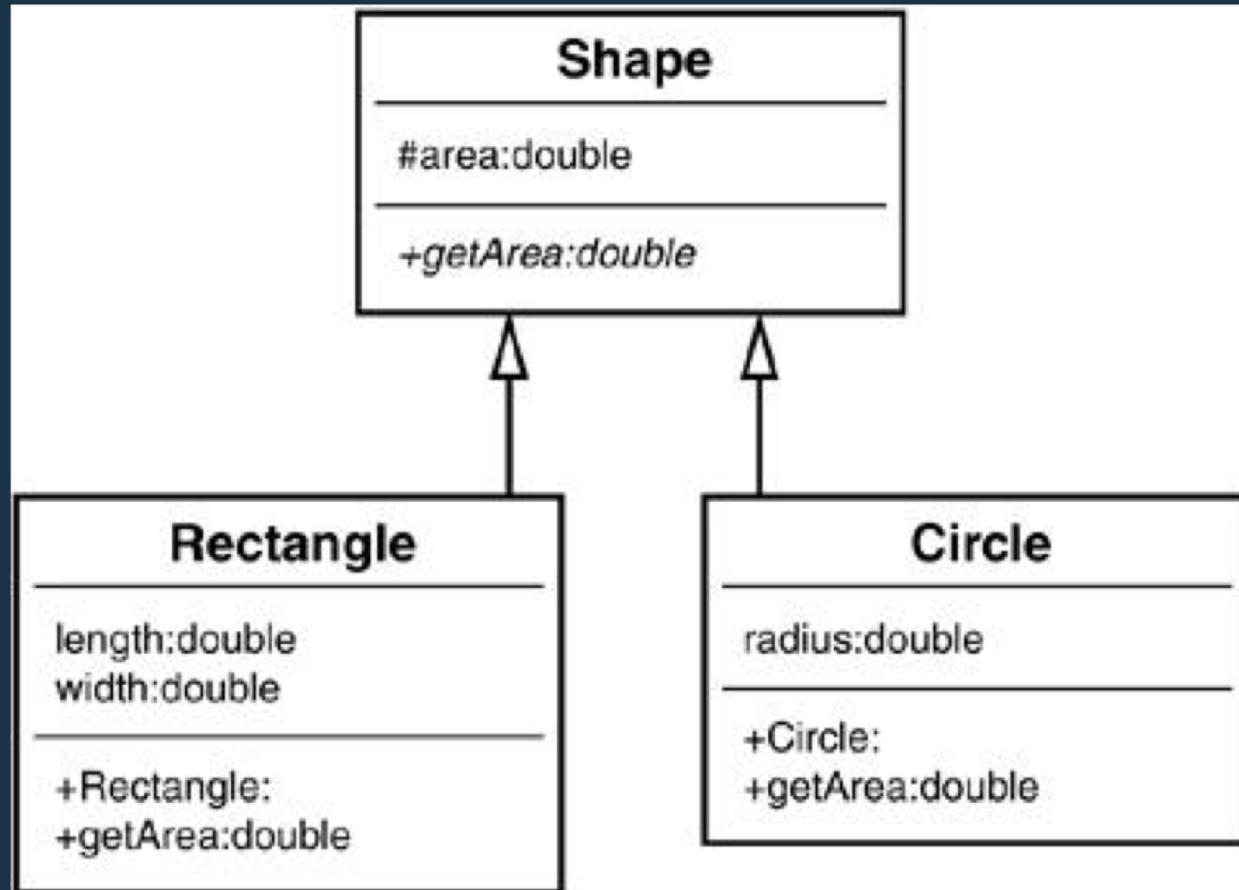


Object diagrams provide examples or act as test cases for class diagrams.

Object diagrams should include:

- ▶ Name of the class
- ▶ Instance of that class
- ▶ Attributes of each class
- ▶ Type of each attribute replaced with an example
- ▶ Relationships

Inheritance Diagram

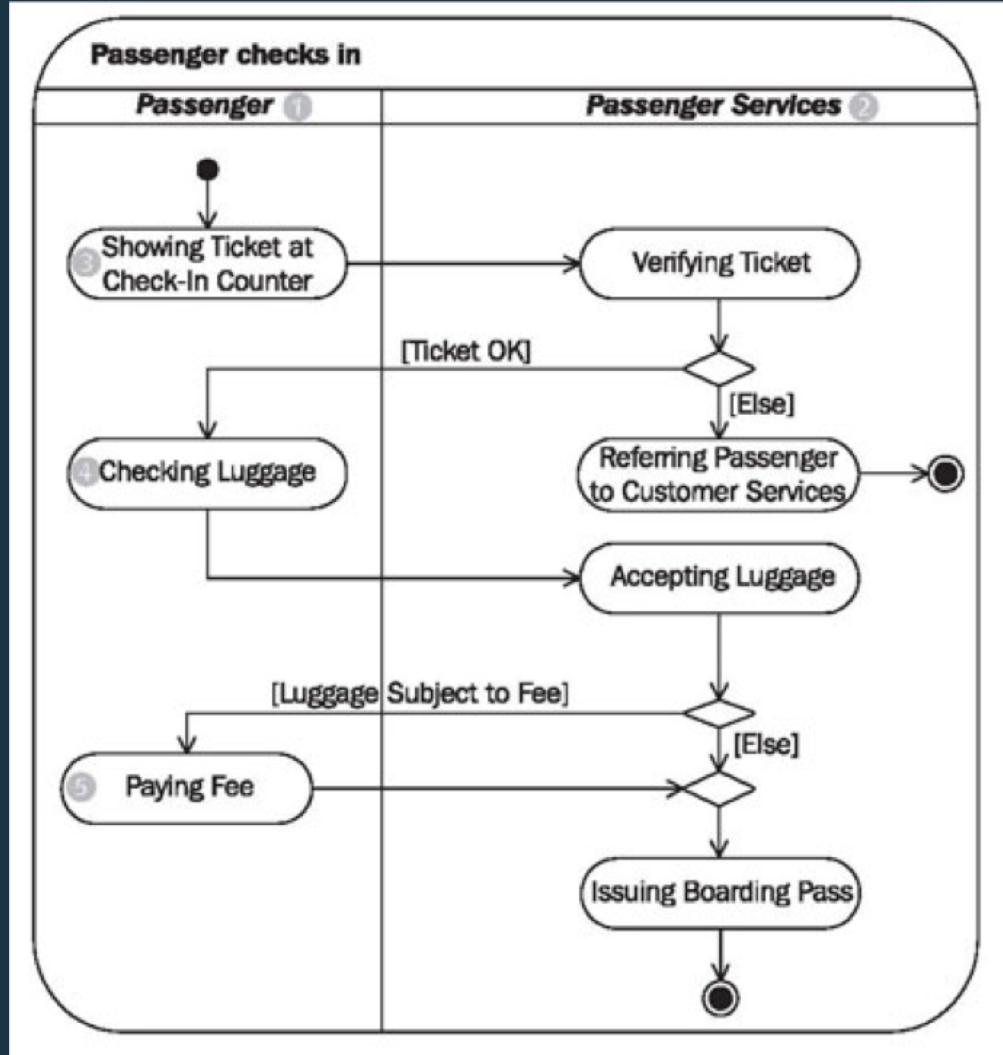


An inheritance diagram demonstrates when a child object assumes characteristics of its parent object.

Inheritance diagrams should include:

- ▶ Relationships (using arrows)
- ▶ Name of the class
- ▶ Attributes of each class
- ▶ Type of each attribute
- ▶ What is inherited

Activity Diagram



An Activity Diagram is a flow chart to represent the flow from one activity to another activity.

This helps to plan what is needed in the system and how it should be structured.

Activity diagrams should include:

- ▶ lines with arrows
- ▶ rounded rectangles (actions)
- ▶ diamonds (decisions)
- ▶ black circle (start of the workflow)
- ▶ encircled black circle (the end)

Implementation Constraints Plan

Implementation constraints are things that might constrain the project and stop it from reaching its full potential.

Constraint Category	Implementation Constraint	Solution
Hardware and Software Platforms	What could be a constraint on the product? How it could be a constraint of the product? Why is it a problem?	How the constraint will be avoided or how it is not a consideration.
Performance Requirements		
Persistent Storage and Transactions		
Usability		
Budgets		
Time Limitations		

Acceptance Criteria and Test Plan

An Acceptance Criteria is a set of statements with a clear pass/fail result. Acceptance Criteria should state intent, but not a solution.

An Acceptance Test Plan is the final two columns of this table.

Acceptance Criteria	Expected Result/Output	Pass/Fail
A user is able to...	The does... when...	Pass/Fail

System Interaction Diagrams

System interaction diagrams look at the flow of control and data among the things in the system.

There are two types of system interaction diagrams:

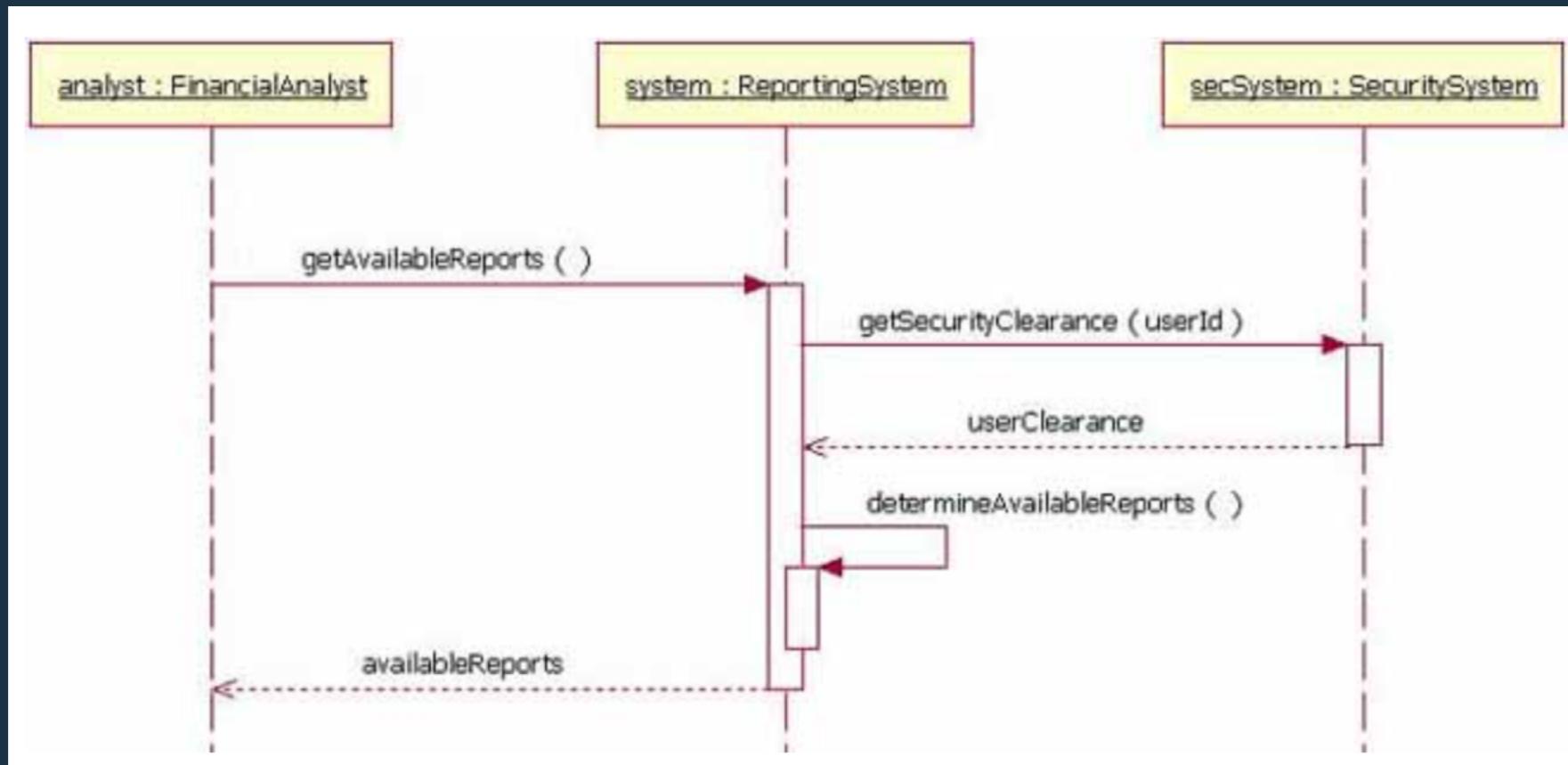
- ▶ Sequence Diagrams: More information at
<http://www.ibm.com/developerworks/rational/library/3101.html>

- ▶ Collaboration Diagrams : More information at
<http://www.ibm.com/developerworks/rational/library/3101.html>

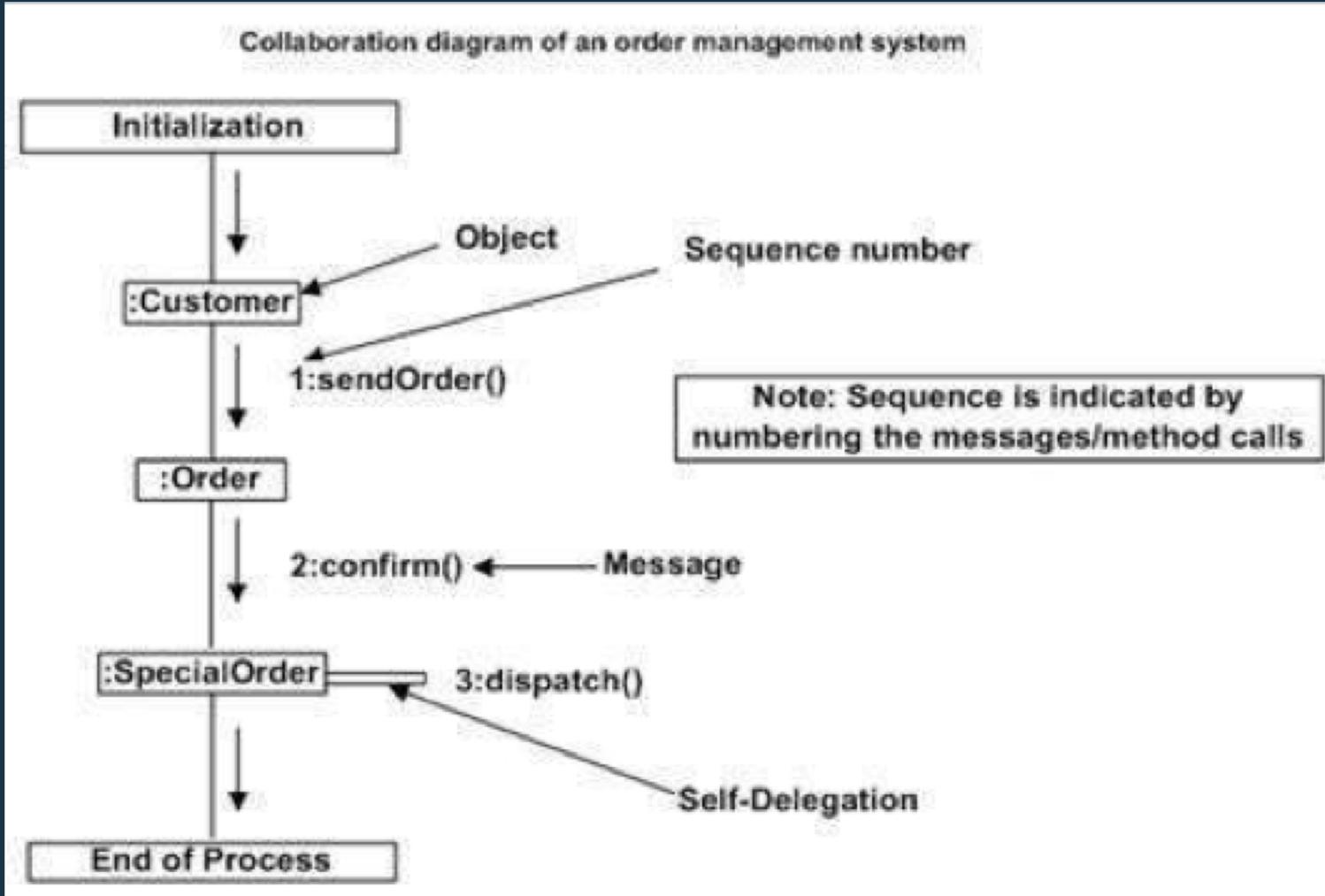
Sequence Diagram

The behaviour of objects in a use case by describing the objects and the messages they pass.

- ▶ Order in which messages occur
- ▶ What messages are sent between a system's objects



Collaboration Diagram



Collaboration diagrams show the structural organization of objects taking part in the interaction.

- ▶ Relationship between objects
- ▶ The order of messages passed between them

Bug Tracking Report

A Bug Tracking Report is a record of all the bugs that occur in the process of building a Software Product.

For the PDA you must include 5-6 examples of “bugs” or errors.

Bug/Error	Solution	Date

Remember...

- ▶ DO NOT GOOGLE PDA DIAGRAMS
- ▶ Use the resources provided
- ▶ Keep on top of the PDA as you go through the course