

Com S 362

Object-Oriented Analysis & Design

Requirements Analysis and Use Case

Analysis Definitions

Requirements

Capabilities and conditions to which the system must conform.
(p.54)

Stakeholders

Anyone with an interest in or an effect on the outcome of the product/project. (Robertson & Robertson, 3rd, p44)

Actors

Anything outside of the system (typically people) with a behavior. A source of triggering events.

Analysis Definitions

Use Case

Text Documents. A collection of related scenarios. (p.63-64)
Not a flow chart!! Not pseudo-code.

Scenarios

A description of an actor or actors using the system to support a goal. (p. 63) The primary source of requirements.

Artifacts of Analysis

- List of Stakeholders
- List of Actors/Users
- List of Trigger Events
- Collection of draft requirements (always evolving)
- Collection of Scenarios
 - Maybe expressed as Activity Diagrams.
- **Use Case** "model" and diagram
- System Sequence Diagram
- Domain model with associations
- Domain model with collaboration/communication diagrams.

Analysis Activities

- Identify use cases/scenarios
 - through events, actors, goals
- Clarify boundary of application
 - Negotiate with stakeholders
- Elaborate/clarify most valuable scenarios
- Identify objects and concepts
 - Tentative assignment of rough responsibilities
- Identify relationships among objects
- Validate objects/responsibilities against scenarios.

Use Case

- Text stories
- Used to discover and record requirements
- Make it easy for domain experts and stakeholders to participate in requirements collection

Example Use Case (with two scenarios)

Use Case: Move an item.

Primary Actor: User

Triggering Event: User selects an element and *click-and-drags* to move the object.

Success Guarantee: Item is in the new location.

Preconditions: A diagram is open with at least one element in diagram or side panel.

Main Success Scenario:

1. A new object is selected.
2. That new object is dragged to a new position.
3. The system moves the item to the new position.

Extensions/Alternatives:

1. Moving item with attached relation, Relation endpoint stays “anchored” to the moving item.



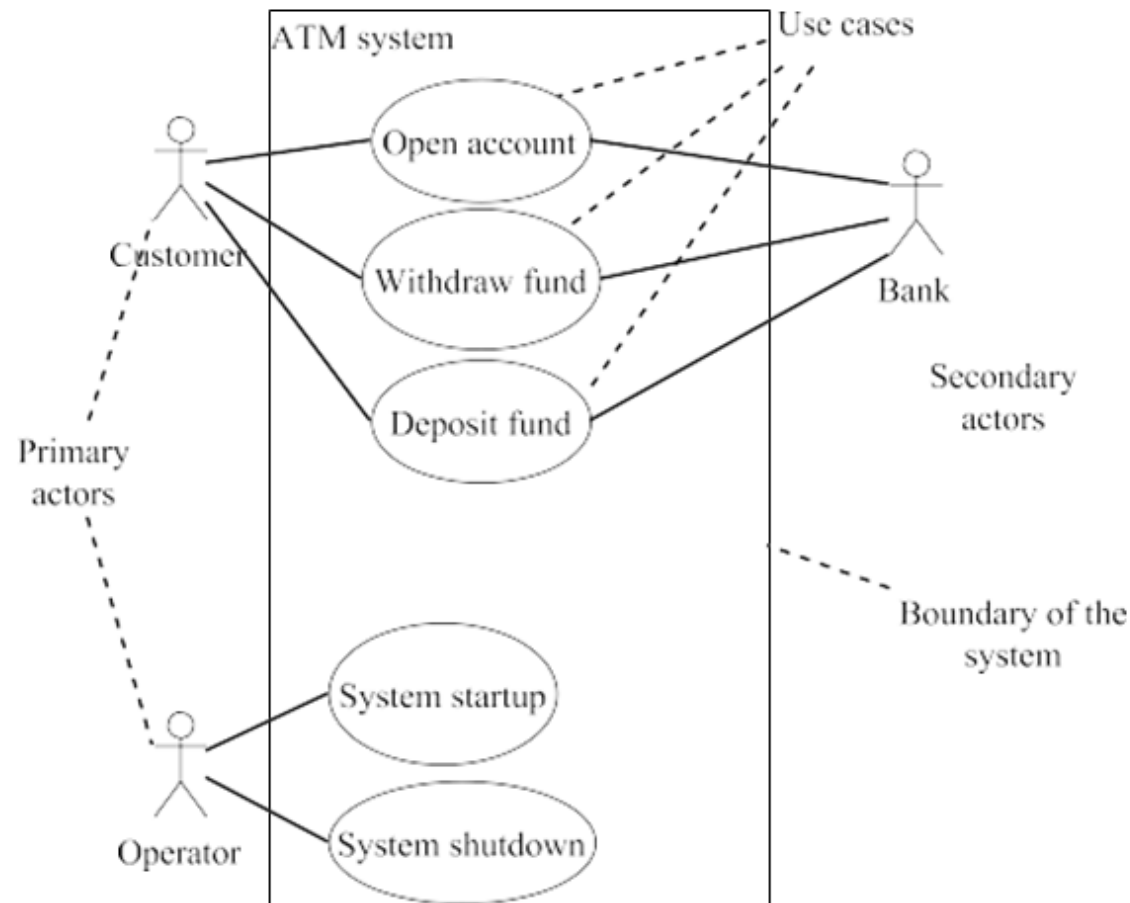
Fully Dressed Use Case

- Use Case Name
- Primary Actor
- Stakeholders and Interests
- Triggering Event
- Success Guarantee
- Preconditions
- Main Success Scenario
 - Steps
- Extension/Alternate Flow
 - Condition Label
 - Steps

See Chapter 30
for more details.

Remember: Focus
your effort on high
value activities.

Example ATM Use Case Diagram



Use case diagrams show the interaction of actors and use cases for a system

Next Steps: Sequence Drawing

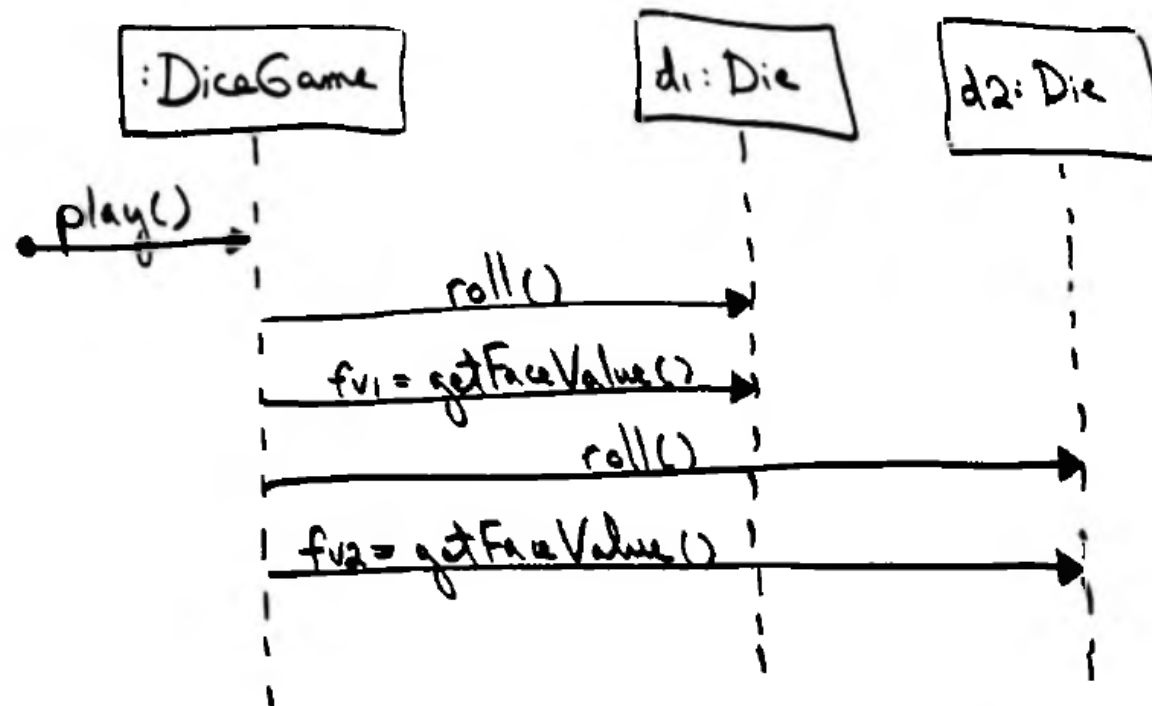


Figure 1.4 Sequence diagram illustrating messages between software objects.

Next Steps: Domain Diagram

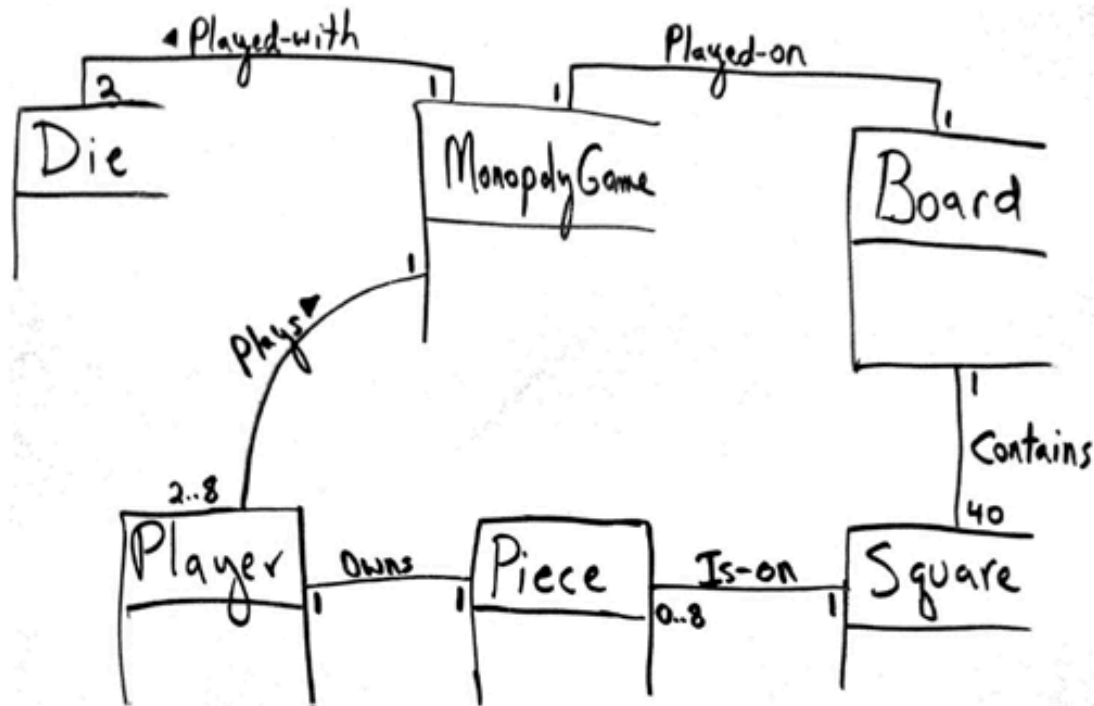
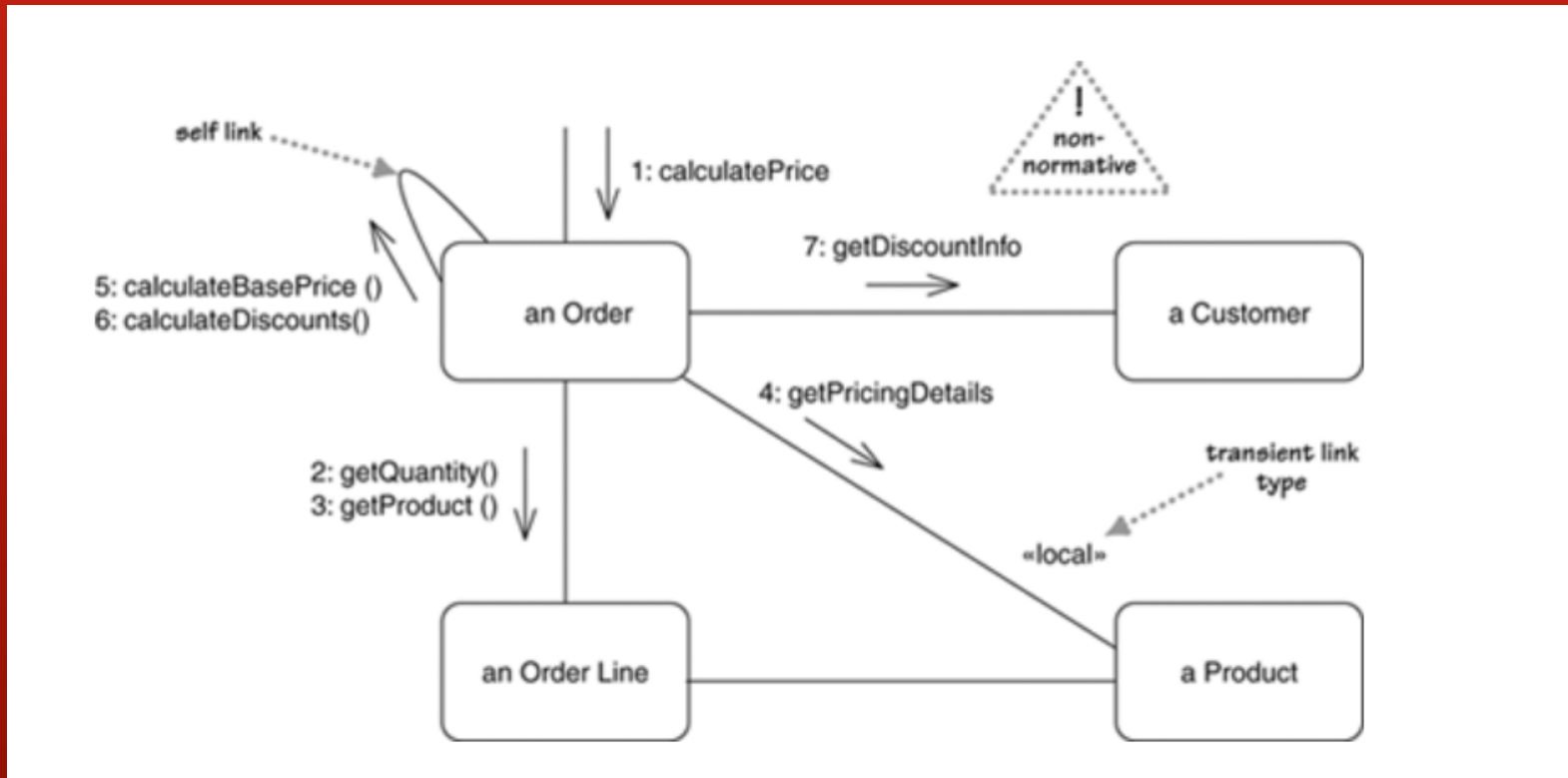


Figure 9.18. Monopoly partial domain model.

Next Steps: Communication/Collaboration Drawing

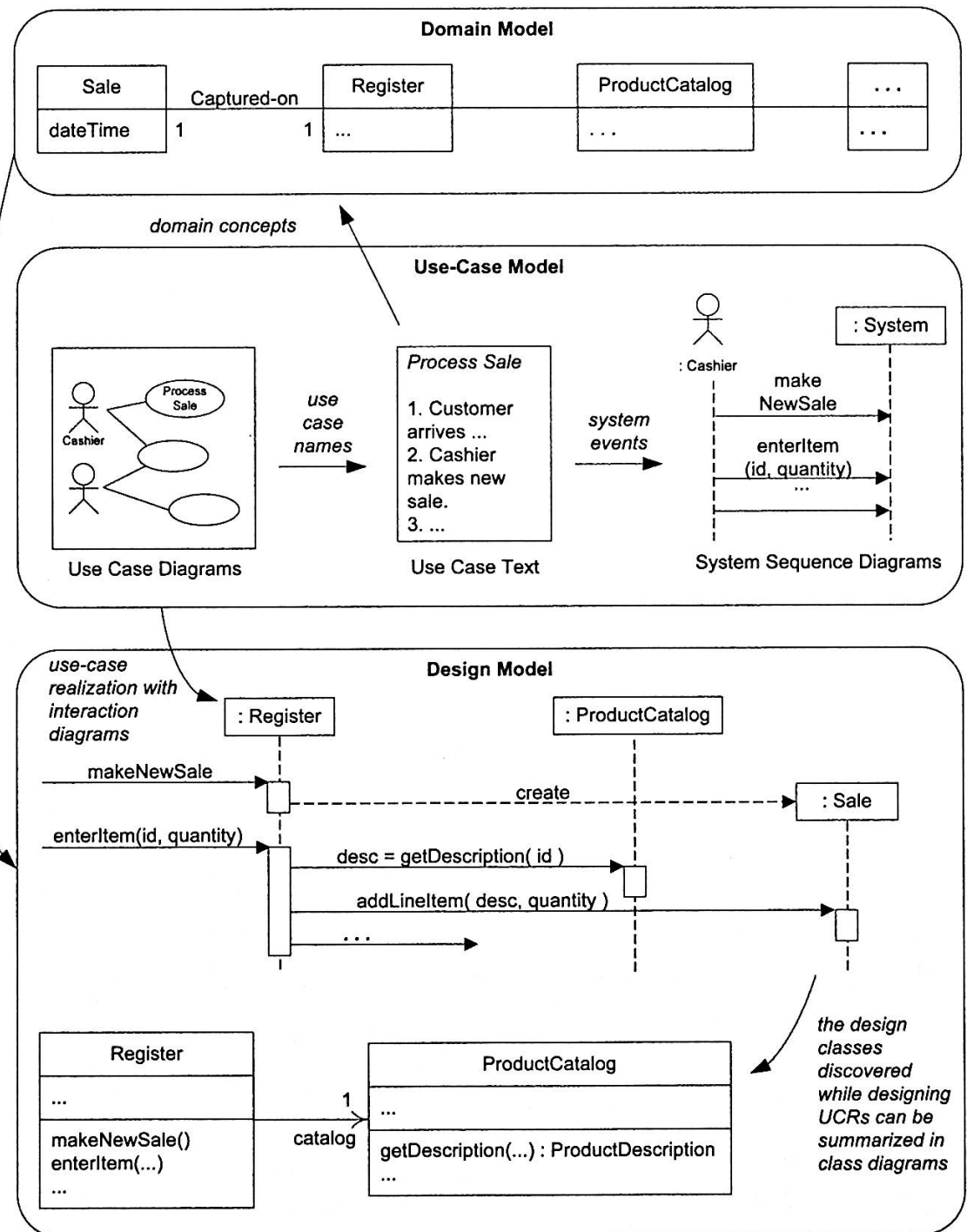


From Fowler "UML Distilled, 3rd"

Fit to Unified Process

Inside front cover makes use case model look sequential.

Sample Unified Process Artifact Relationships



Fit to Unified Process

