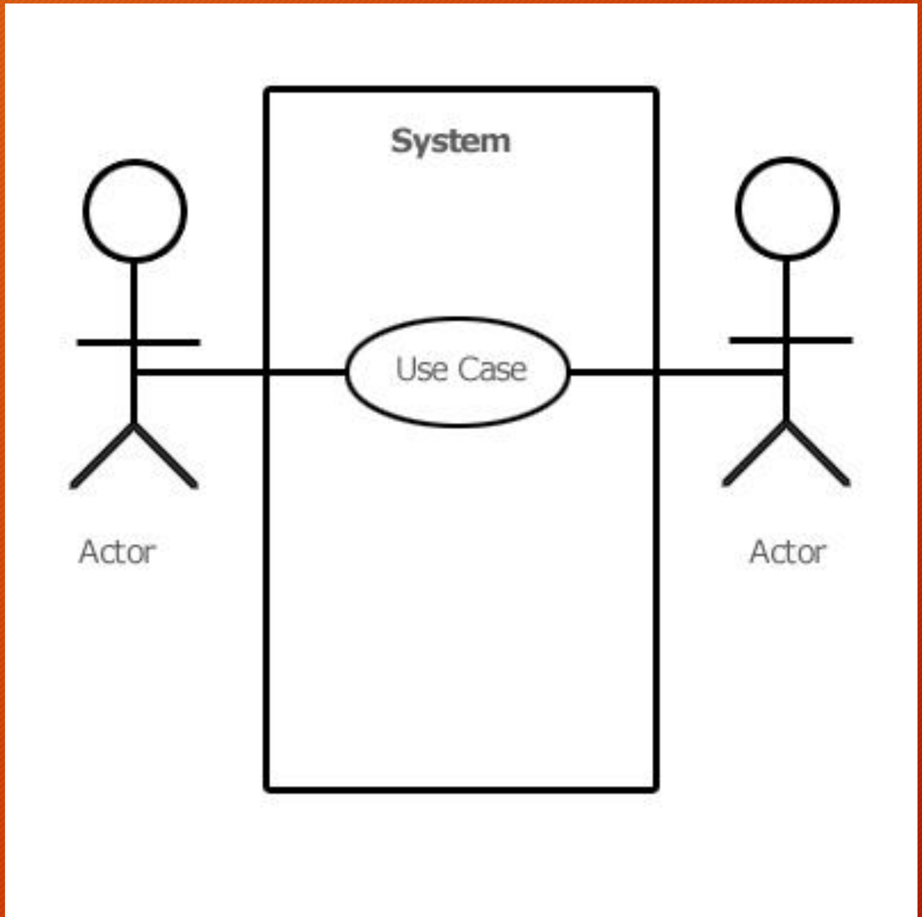
The Use Case

Diagrams, too

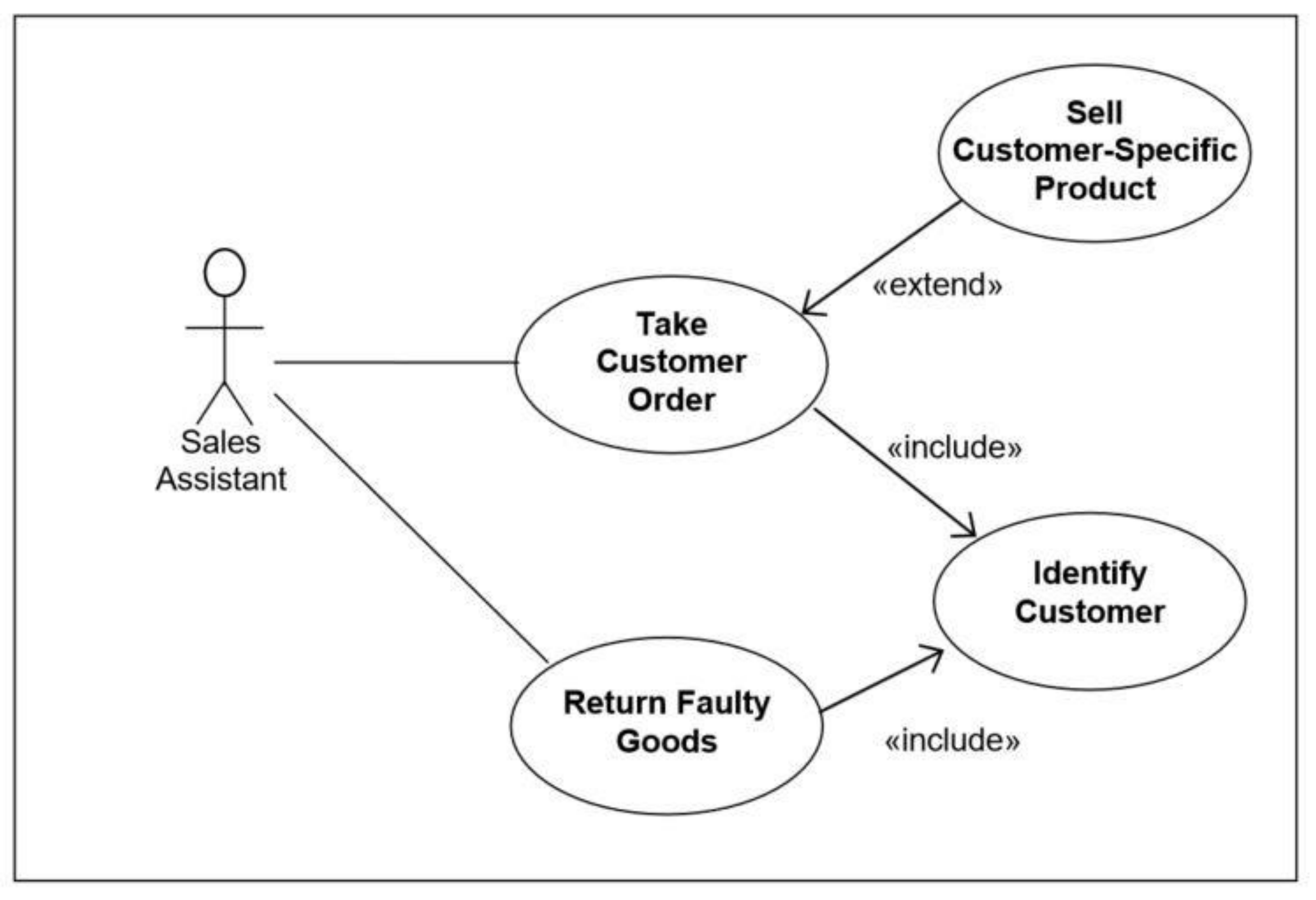
First, Some UML

- Unified Modeling Language
  - Developed in Mid-’90s
  - Depict behavior and interactions of a software-based system
  - 14 different diagrams
    - Structural (Static)
    - Behavioral (Dynamic)
  - Strengths / Weaknesses

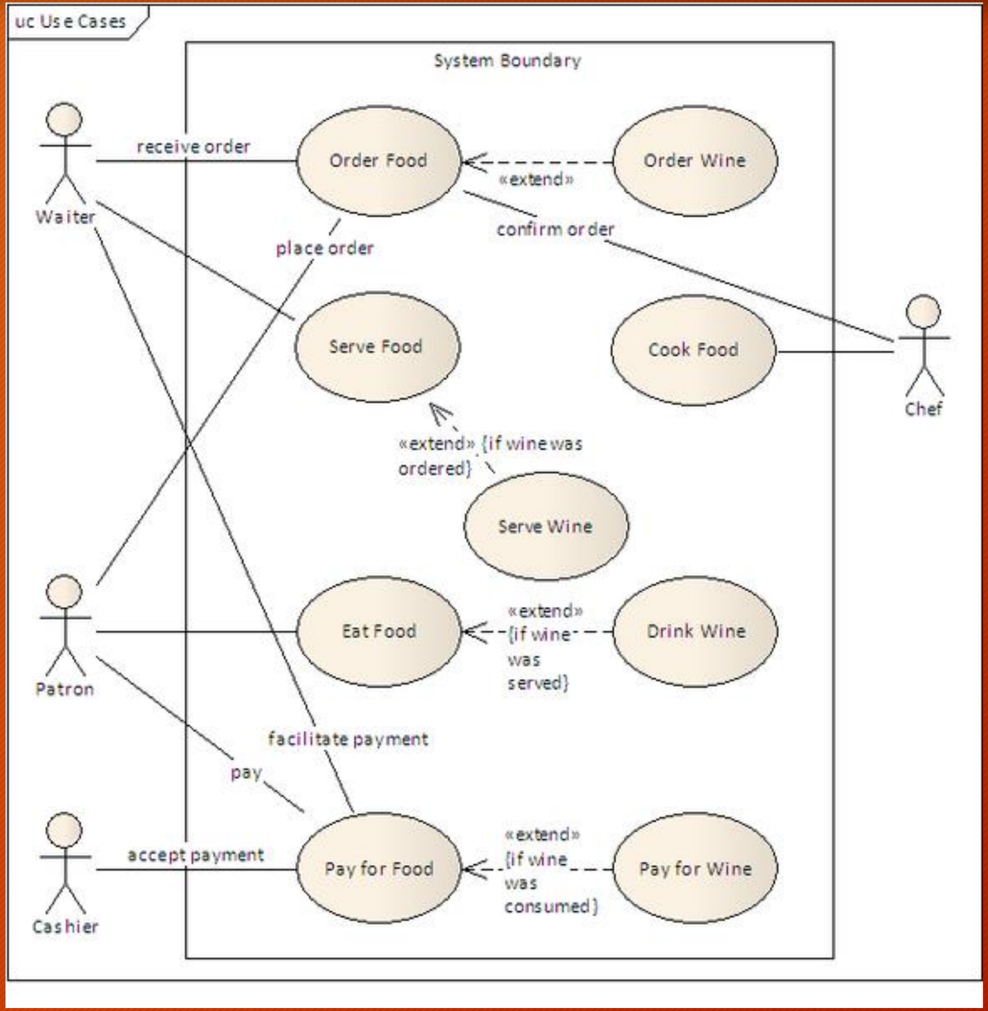
Use Case Diagram



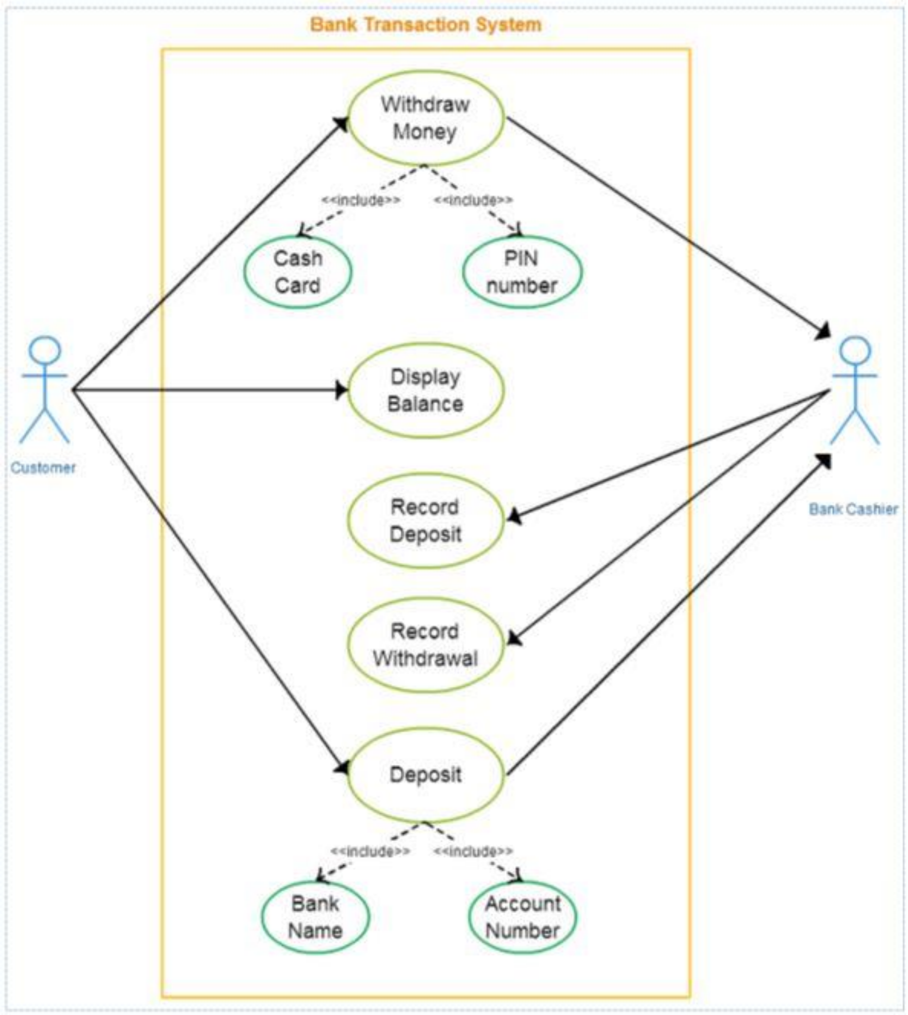
Use Case Diagram includes and extends



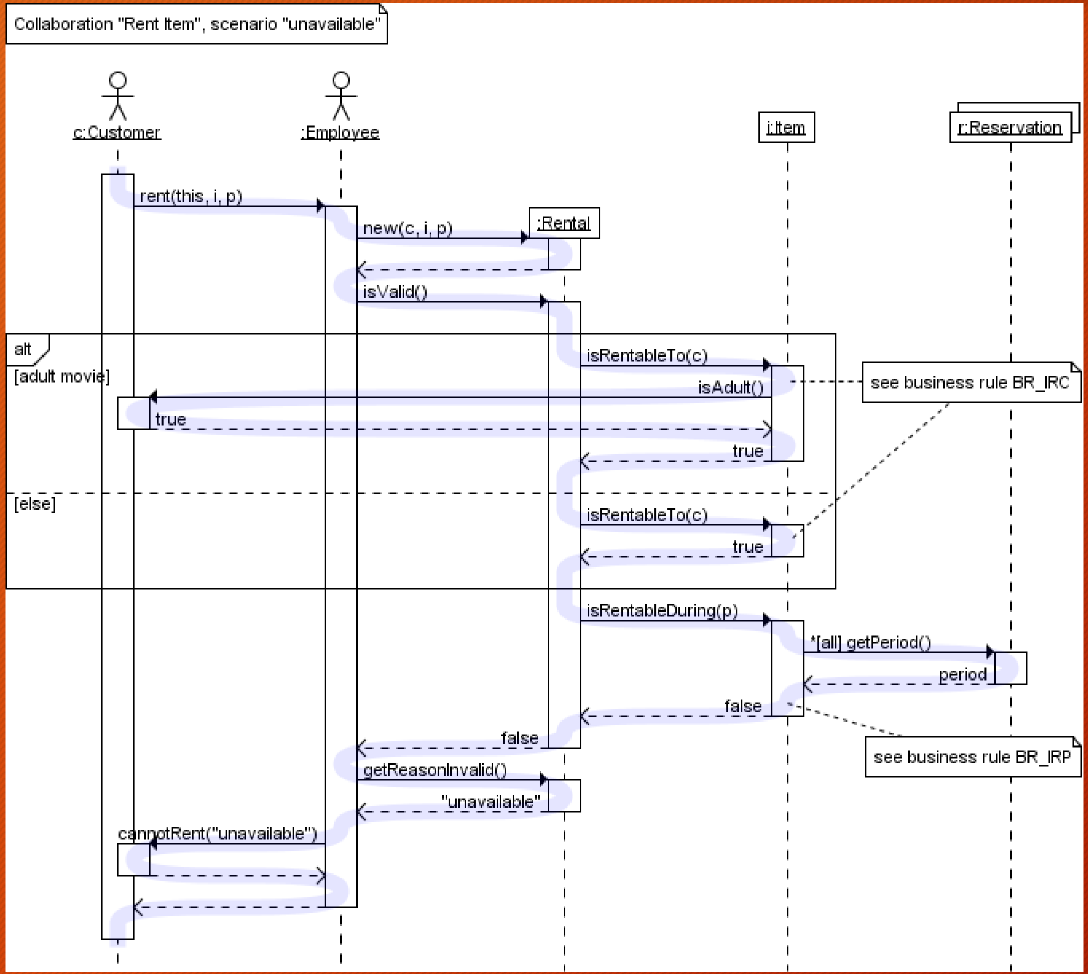
Use Case Diagram



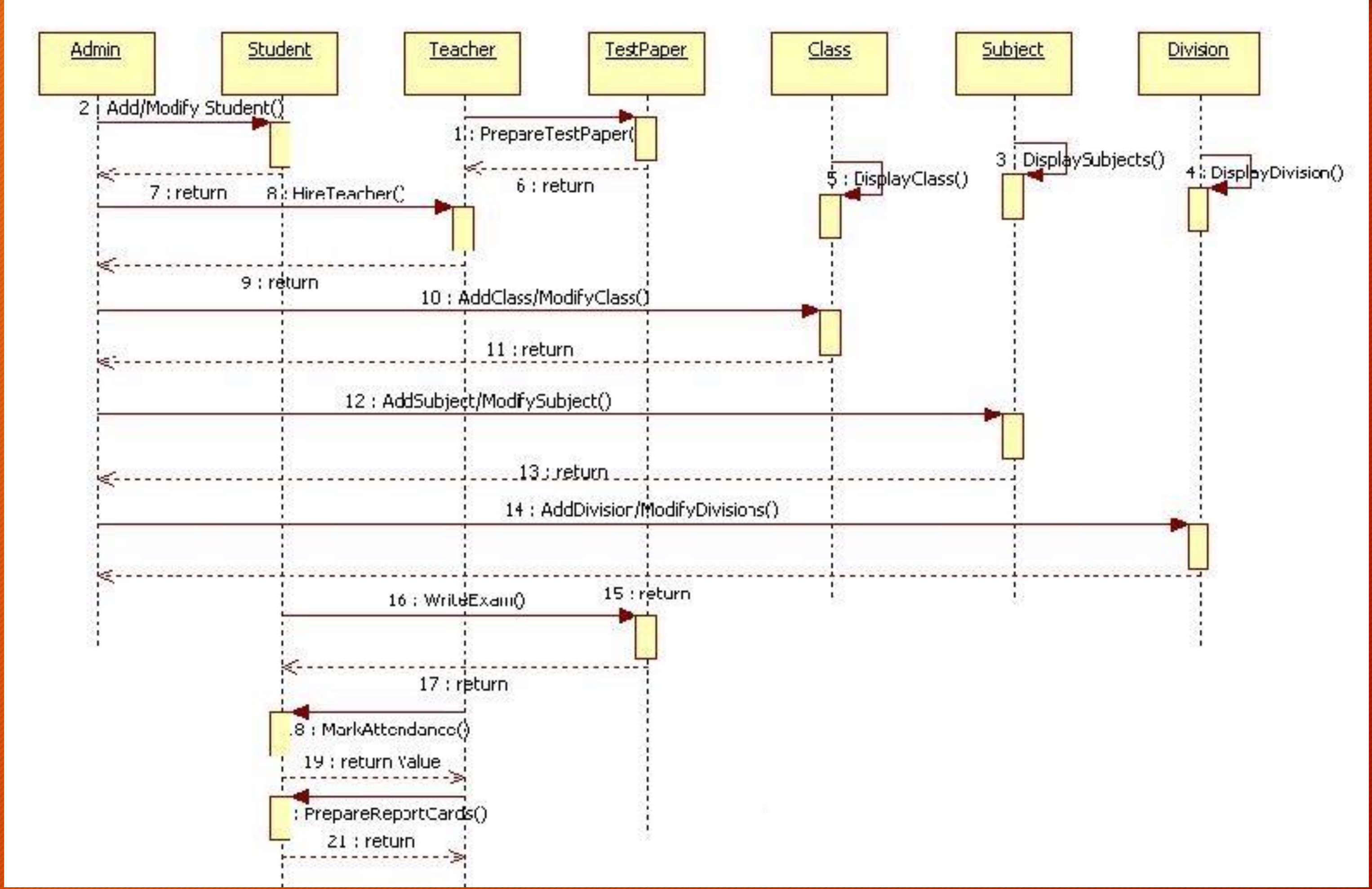
Use Case Diagram



Sequence Diagram

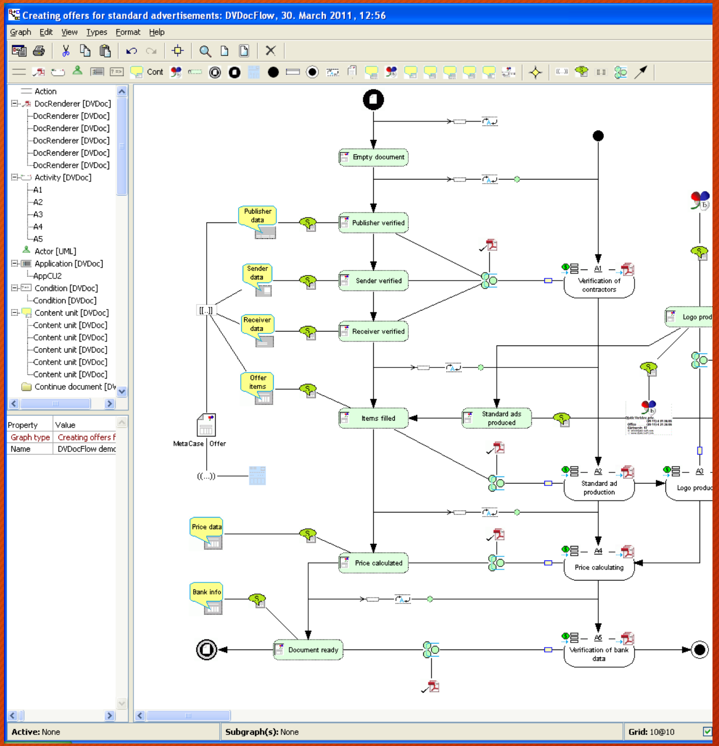


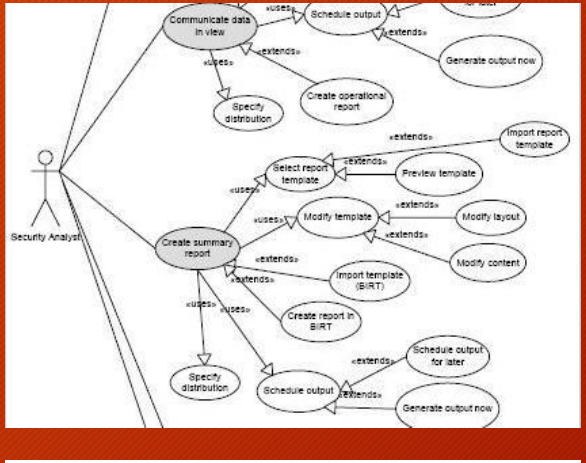
Sequence Diagrams

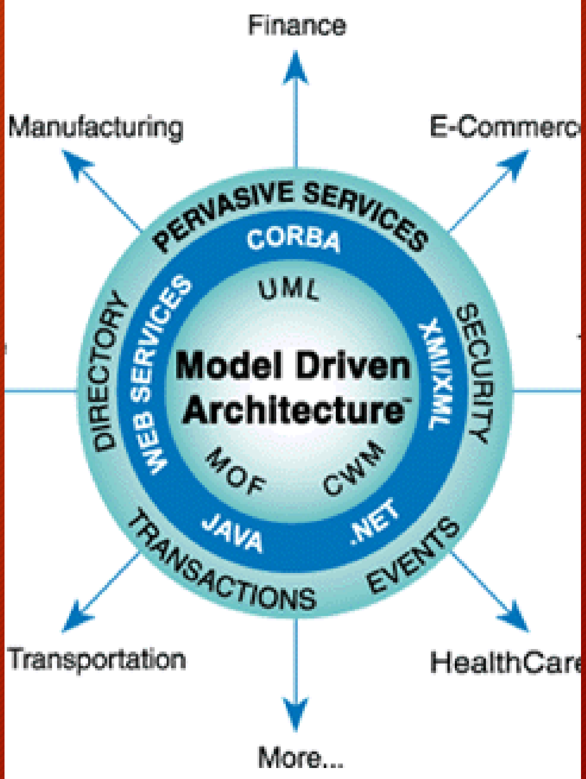


Be careful

- UML
- DSM
- MDA
- ALSO:
  - CORBA
  - IDL
  - IIOP
  - MOF
  - XMI
  - CWM
  - OMA
  - ALSO:
    - MDE
    - MDD
    - MDSD
    - MDA
    - MDI
    - DDD







Use cases

- Not diagrams, Not UML
- Stepped, sequenced procedures
- Illustrate how the user interacts with the system
- Result in a goal (The main point of the use case)
- Three circumstances
  - Normal course (Happy day, sunny day, golden path)
  - Alternate course
  - Exception course
- Can use personas / scenarios to aid in creation

Use Case index

Use Case ID	Use Case Name	Primary Actor	Complexity	Priority
1	Places a bid	Buyer	High	1
2	Purchases an item	Buyer	High	1
3	Creates an account	Generic User	Medium	1
4	Searches listings	Generic User	Medium	1
5	Provides feedback	Generic User	Medium	1
6	Creates an auction	Seller	High	1
7	Ships an item	Seller	High	2

Use Case detail

Use Case Element	Description
Use case number	ID from index to identify each case
Application / System	The system or application the use case references
Use case name	Name of use case (Brief and descriptive)
Use case description	Details of use case, written out as narrative
Primary actor	Main actor involved in activity (Use case)
Objective	What is the goal of the Primary Actor
Preconditions	What must happen before this use case can begin, if anything
Trigger	What event causes the use case to begin
Basic flow	Happy day scenario, from inception to conclusion
Alternate flows	Alternates and exceptions

Use case: Add one book

- Basic flow
  1. Librarian enters title of new book
  2. Librarian enters author of new book
  3. Librarian enters ISBN of new book
  4. A new book is created
  5. Book is added to available books for checkout
  6. Librarian receives confirmation of success
- Alternative (Exception, really) flows
  - 1a, 2a, 3a: The system detects an invalid data entry
    1. The system informs the librarian
    2. Librarian re-enters data, alternative flow steps 1-2 repeated until successful or activity canceled
  - 5a System detects duplicate number during DB commit
    1. System informs librarian
    2. Operation canceled

The Use Case

- Easier to read
- Easier to communicate procedures / use
- Easier for clients to understand
- Helps you as the designer understand the process
- Even as they get more complex, are still easier to digest – much more so than diagrams