Use Case

- A narrative description of the sequence of events of an actor using the system to complete a process.
- They represent a case of an actor using the system for a required business function.
- A use case name is a short phrase beginning with a verb.
- Each event corresponds to at least one use case.

Use Case Diagram

Identifying use cases

Procedure for Object-Oriented Systems Analysis

- Step 1. Identify the business events and make an event table.
- Step 2. Identify the use cases and produce a use case diagram for the system.
- Step 3. Produce a domain model showing the concepts, attributes and associations in the problem domain of the system.

Events and Use Cases

- There will be AT LEAST one Use Case for every event identified
  - Event
    - Author submits Paper.
    - Time to produce a list of submitted papers
    - Paper allocated to reviewer.
    - Time to produce Class Roster
  - Use case
    - Submit paper.
    - Produce List of Submitted Papers.
    - Allocate papers for review.
    - Produce Class Roster.
Components of a Use Case Diagram

- **Actor**: A named stick figure
- **Use case**: An oval containing the use case name
- **Association between an initiating actor and a use case**: a line with a stick arrowhead

Components of a Use Case Diagram (ctd)

- **Association between a participating actor and a use case**: a line
- **The system boundary or a subsystem boundary may be shown as a rectangle.**
- **The «includes» association occurs when primary use case triggers a subsidiary independent use case.**

Scenarios

- A use case may have several possible sequences of events
  - main sequence and alternatives or exceptions.
- Each alternative sequence is called a **Scenario**
- Use case scenarios can help discover alternative paths through a use case or test the completeness or correctness of a use case narrative.

Associations Between Use Cases «includes»

- The «includes» association always occurs when the use case which includes it occurs.

Identifying use cases

- Identify the actors
- Find the processes in which they participate or which they initiate or
- Identify the events to which a system must respond
- Relate the events to actors

Use Case for Analysis

- Use case narratives for analysis should be **essential** – they should not mention any possible implementing technology.
  - cf. logical vs. physical functional analysis techniques
Textual descriptions:

- Define what the system must do when the actor activates the use case
  - Use Case Name
  - Actors involved in Use Case
  - Use Case purpose
  - Use Case narrative description

High-Level Use Case Narrative

FIGURE 4.9

SOURCE: STUMPF & TEAGUE Chap.6