ĐẠI HỌC TÔN ĐỨC THẮNG
TON DUC THANG UNIVERSITY

REQUIREMENTS ANALYSIS AND DESIGN (PHÂN TÍCH VÀ THIẾT KẾ YÊU CẦU) 502050

Chapter 3
Initiation Phase (cont.)

Outline

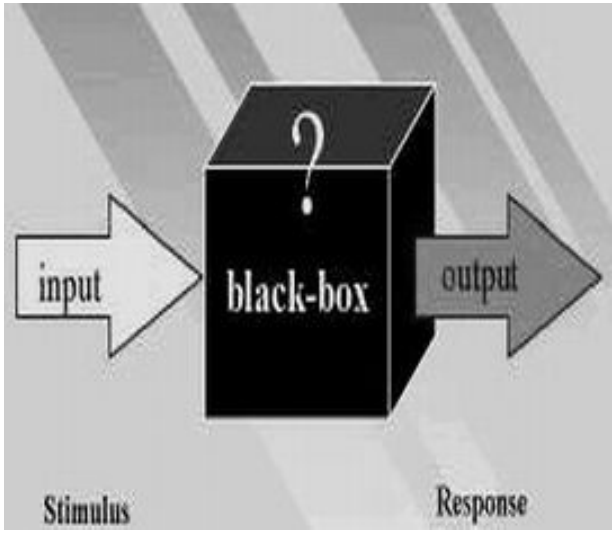
- System Use Cases
- Event Decomposition
- Identify Actors
- Identify System Use Cases
- Organizing Use Cases

System Use Cases

- So what are system use cases?

Event Decomposition

- Events
  - An event can happen at a specific time/place
  - Should be remembered by the system
  - Trigger processing in the system



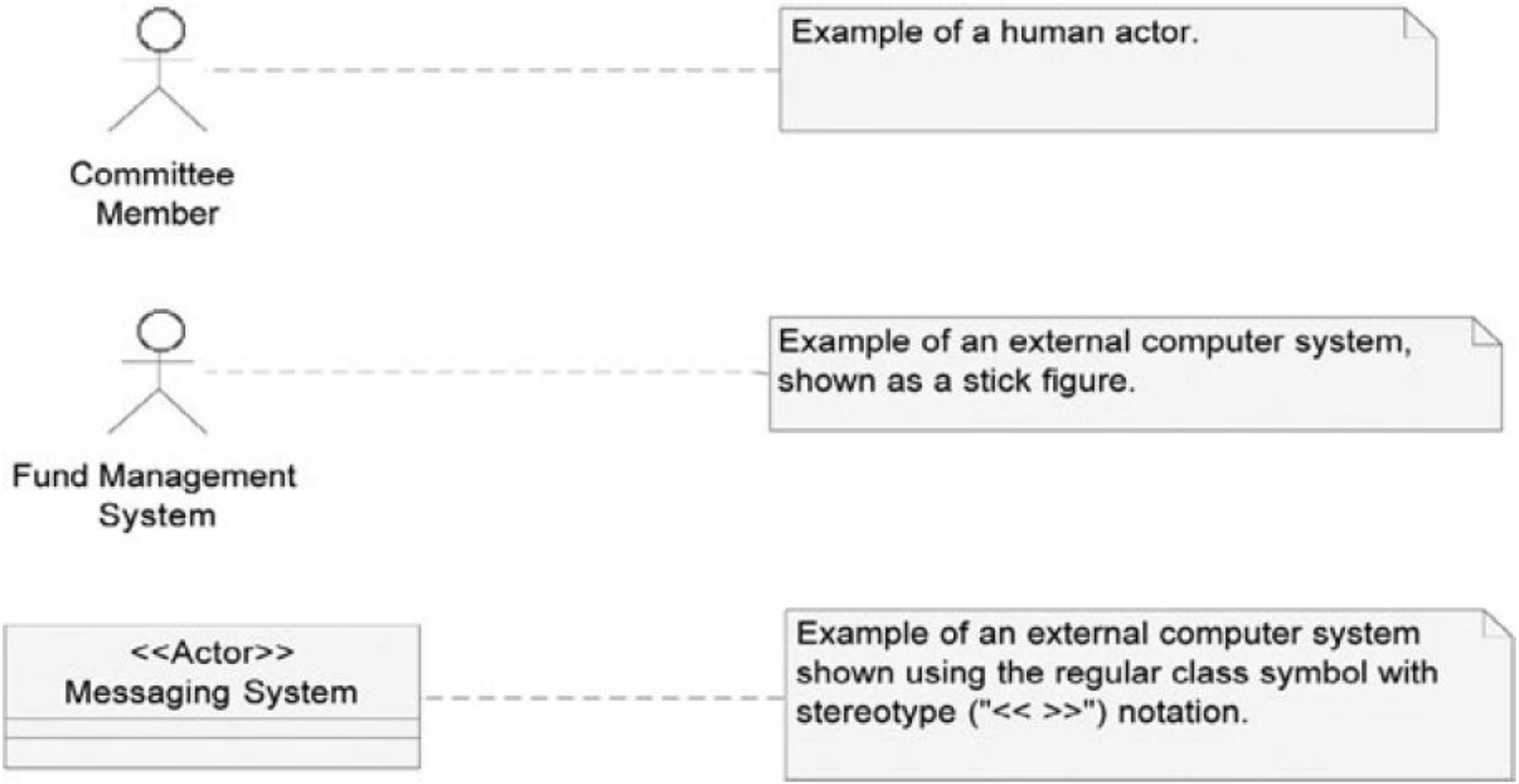
How to identify Events?

- One approach is **Event Decomposition**
- Treat system as a black box

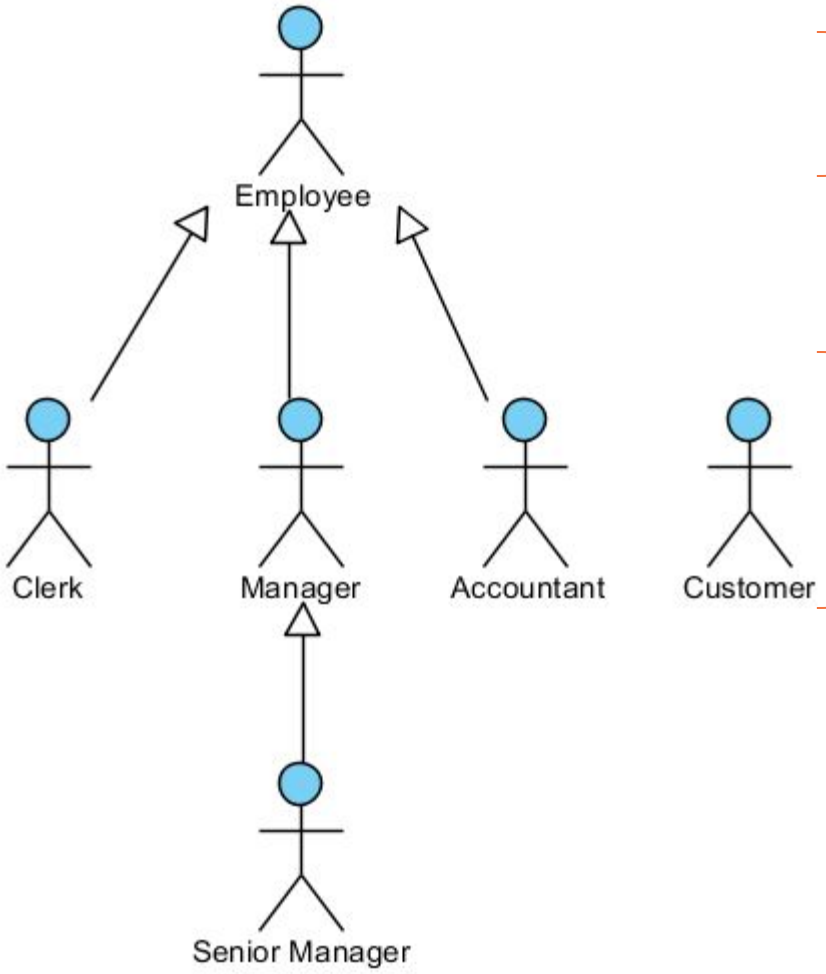
Identify Actors

- Can be users of the IT system
- Or other system that interacts with the IT system
- Questions to ask
  - What will the system be like?
  - Who are the possible users?
  - Is there just one system or many subsystems
  - How does the system interact with other systems?

Actor


Committee Member
Example of a human actor.
Fund Management System
Example of an external computer system, shown as a stick figure.
<<Actor>>
Messaging System
Example of an external computer system shown using the regular class symbol with stereotype ("<< >>") notation.

An example of Abstract actor



General

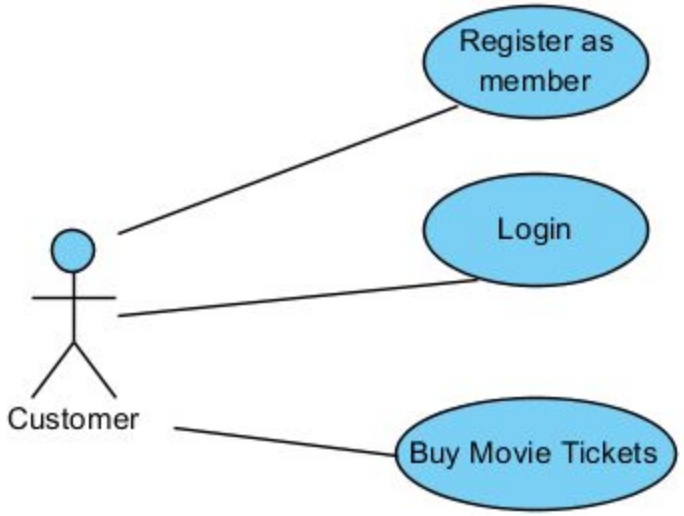
More Specific

More Specific => they can do more things

Even More Specific

Identify System Use Cases

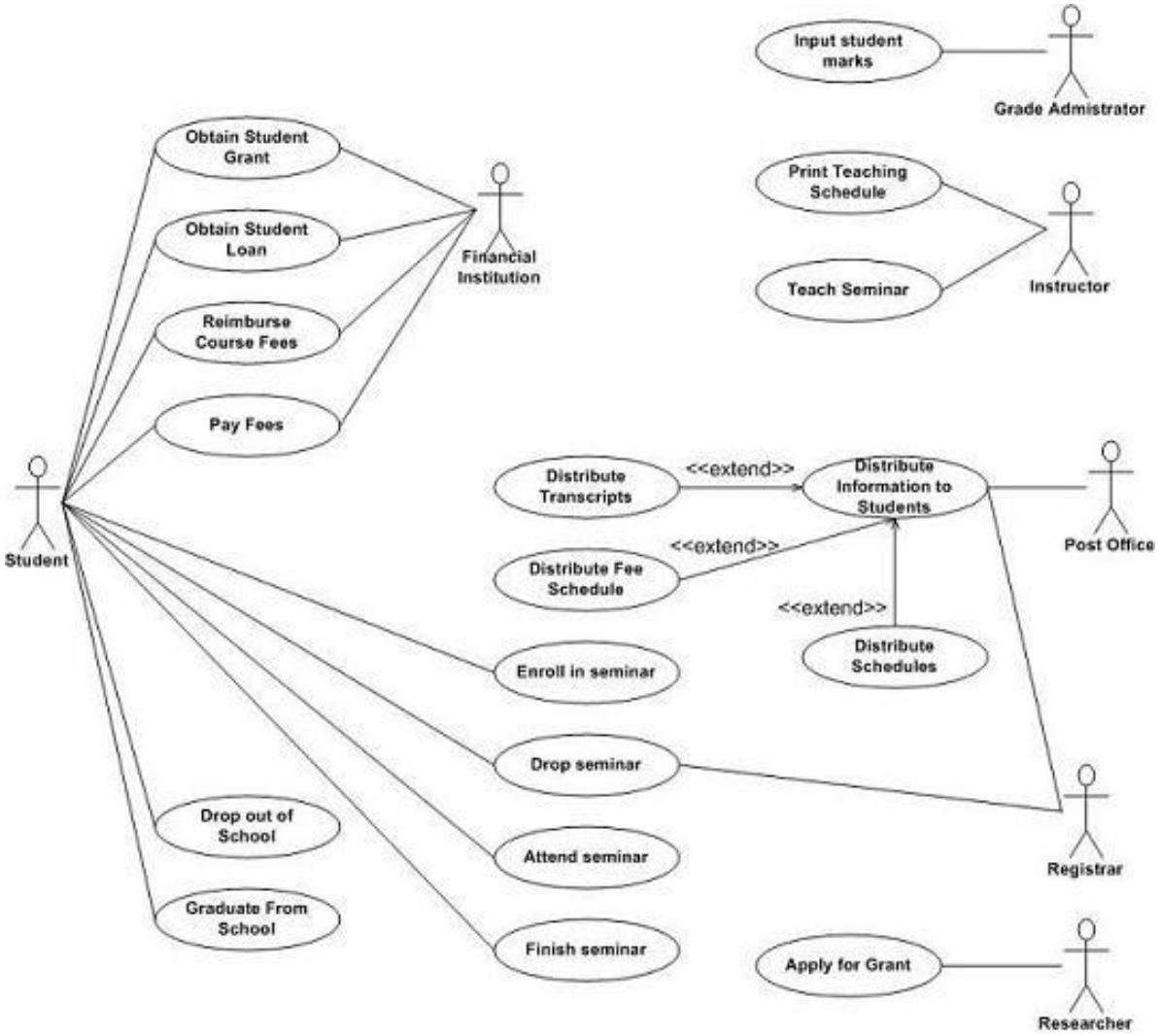
- A system use case is an **interaction between an actor and a computer system**
- Go back to the business use cases and review the activities they describe



Identify System Use Cases

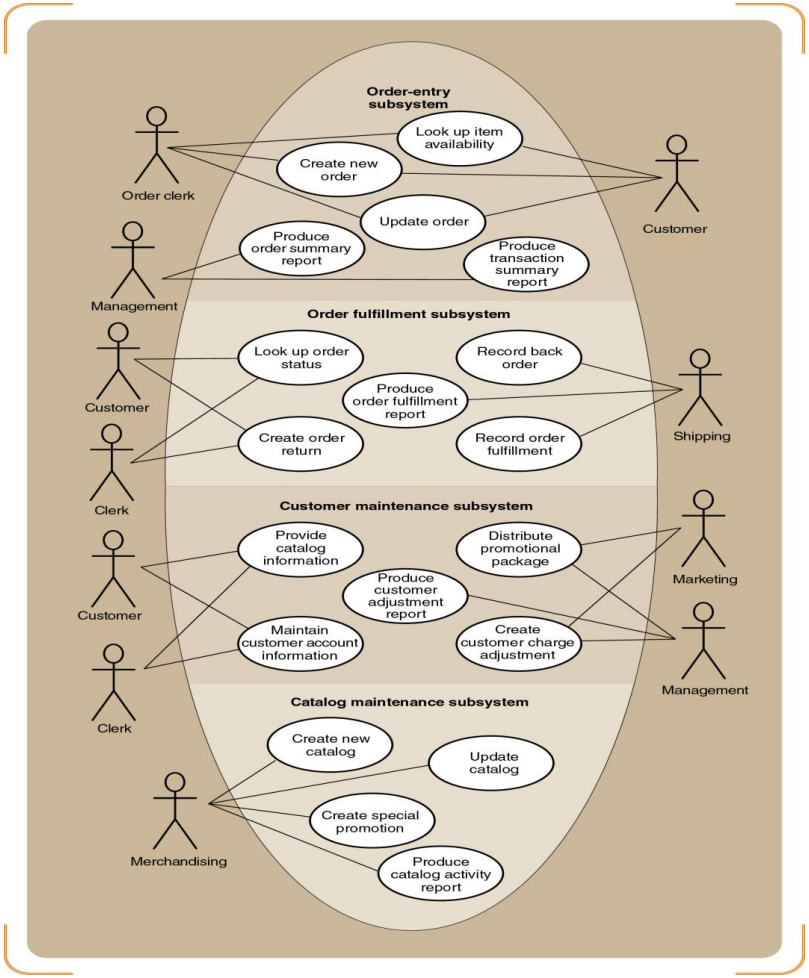
- Once you have identified the activities, group them into system use cases:
  - How will someone sitting at a terminal actually use the system?
  - What result is the user trying to achieve from the computer system with each interaction?
  - Each of these results, expressed as a user goal, is a system use case
  - For example, for a Web banking system, some system use cases are *View Transaction History*, *Transfer Funds*, and *Pay Bill*

An example of System Use Cases

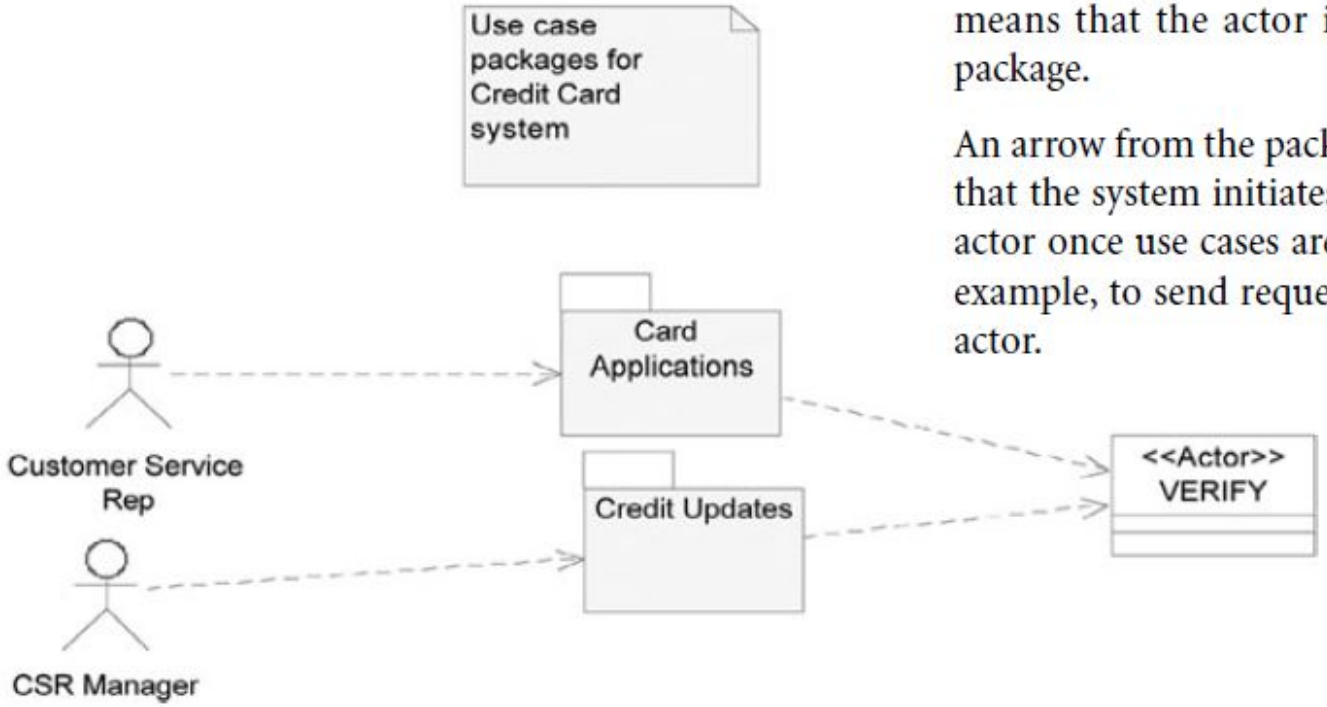


Organizing Use Cases

- Organize use cases by **specific actor (e.g. activities handled by the clerk)**
- Organize use cases by **subsystem** (e.g. customer transaction sub-system, payroll system)



System Use-Case Package



An arrow from an actor to the use-case package means that the actor initiates use cases in the package.

An arrow from the package to the actor indicates that the system initiates the interaction with the actor once use cases are already under way—for example, to send requests or information to the actor.

When to use Package?

- Common approaches used to group system use cases into packages:
  - **Group system use cases by the main actor who uses them**
    e.g. group together into one package all the system use cases used by the general administration

When to use Package?

- Create a system use-case package for each business use case
- E.g. for an insurance system - "*Make a Claim*" use case:
  - To the customer, it represents one business goal
  - However, to achieve it, the company's workers (actor) require a number of discrete interactions with the computer system such as *Record Claim*, *Validate Policy*, *Adjust Claim*, *Pay Claim*
  - Each of these interactions qualifies as a system use case
  - Bundle them all in the use-case package *Make a Claim*