

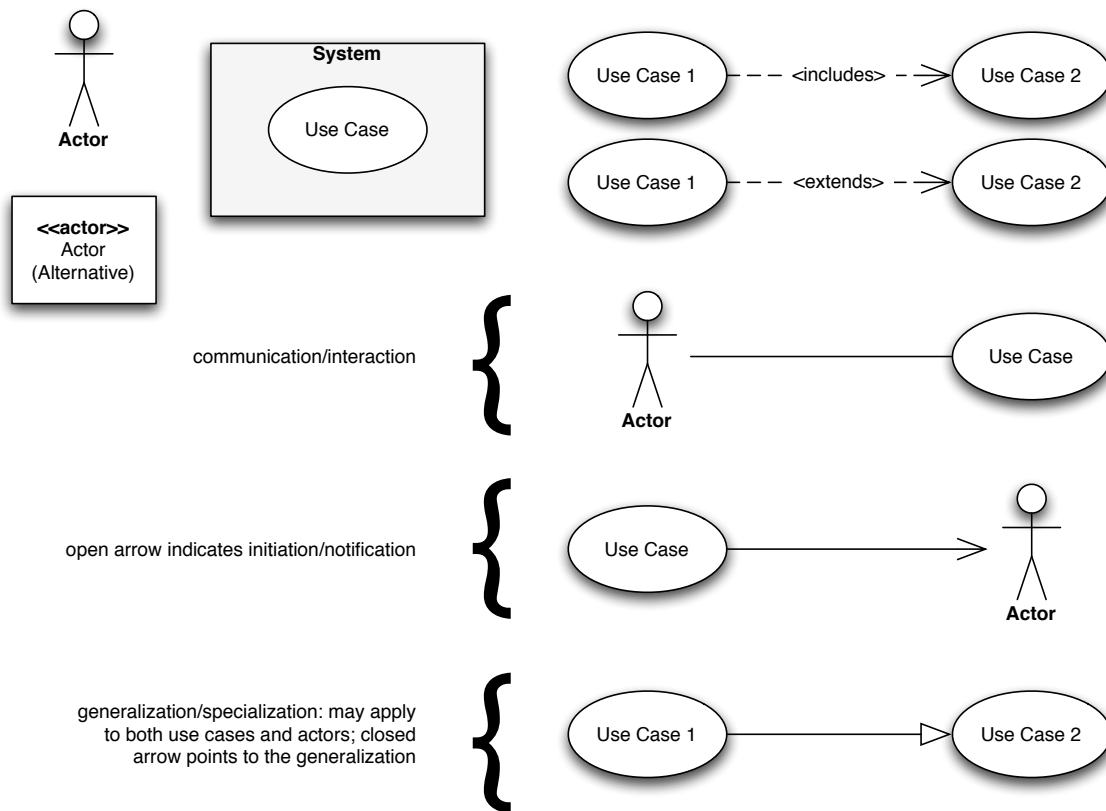
# Use Case Modeling

From Alhir, *Learning UML*, O'Reilly 2003:

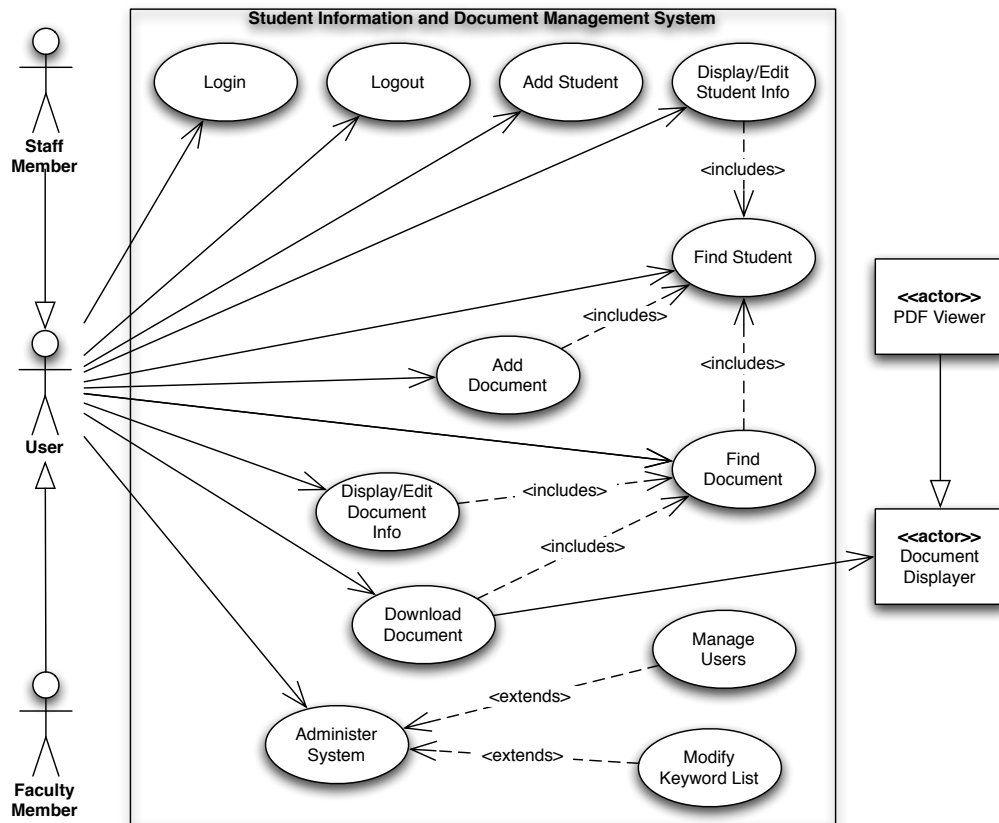
- *System* — what you are building; use case modeling is helps to determine the system's *boundaries*
- *Use case* — a functional requirement that is described from the perspective of the users of a system; an overall *use case model* can be thought of as a “table of contents” to the functional requirements of a system
- *Actor* — a human user or external system with which your system interacts

## Use Case Diagram Notation

- Doesn't have to be a fancy diagram — it is just as useful as a straight-up text writeup
- Depending on the necessary level of detail, you'll probably end up writing out some text anyway (detailed steps, use case prerequisites, possible outcomes, exceptions, etc.)
- That said, UML does provide a consistent notation for creating use case diagrams at the top level



- Use case 1 *includes* use case 2 if use case 1 “calls” use case 2 within its own flow
- Use case 1 *extends* use case 2 if use case 1 augments the activities in use case 2
- Actors involved in a use case are indicated by a solid line between the actor and the use case, indicating communication or interaction
- A use case model explicitly shows *initiation* — who triggers what — by placing an open arrow in the direction of the “triggeree”
- Use cases and actors may participate in *generalization* and *specialization* — equivalent to subclassing in object-oriented systems



- As with most elements of requirements analysis, use case modeling is iterative — give it a shot, check it against the users, tweak, then check again
- When developers feel that they have enough information to build a system *and* target users feel that the list of use cases will fulfill their needs, some implementation work may occur
- Developers and target users interact throughout the process, as a number of things may happen, such as:
  - ◆ New information may emerge
  - ◆ Missing information may be discovered
  - ◆ Errors/misunderstandings are found