Use Case Diagram

Dr. Rodrigo Spínola

TDresearchteam
Technical Debt Research Team

VCU Computer Science
College of Engineering

Last time

due to its semantic

UML is a **graphical language** for **visualizing**, **specifying**, **constructing**, and **documenting** the artifacts of a software-intensive system.

- Consists of several different diagram types
- Can be used at different abstraction levels
  - From business process to individual language statements
- **It is a language, not a method or procedure!**

Lecture 21 - Use Case Diagram

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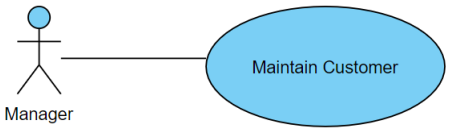
Use Case Specification

A **Use Case Specification** is a textual description of the functionality provided by the system. It captures **actor-system interaction**. That is, it specifies how a user interacts with a system and how the system responds to the user actions.

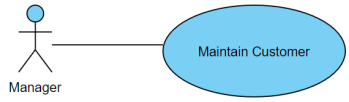


Use Case Diagrams

- Use case diagram is behavioral
  - Remember that e.g. Class diagram is structural and Sequence diagram is behavioral
- Maps to user stories or functional requirements
  - Describes the outside view of the system
    - From the point of view of a set of actors
  - Models system actions that yield an observable result
  - Simple, but effective for several purposes

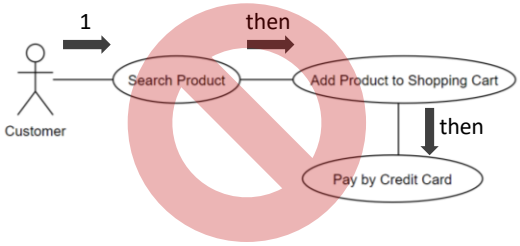
Rules for use case diagram

- Actors
  - E.g., employee, manager, AppUser
  - External to system (humans or systems or devices)
  - Interact with system
  - May appear in many use cases
- Use cases
  - Brief title of an interaction with the system

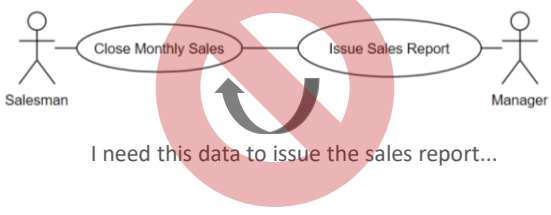


Rules for use case diagram

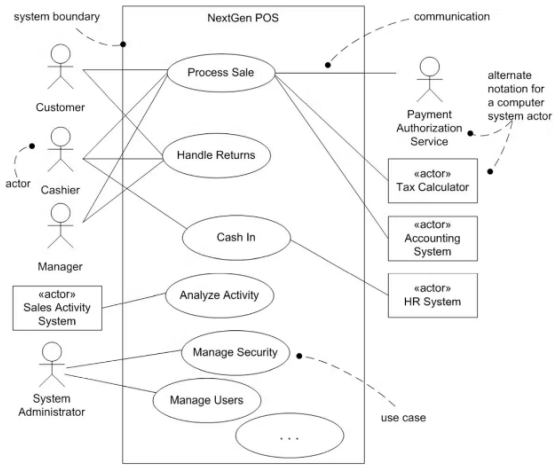
It DOES NOT represent temporal dependencies



It DOES NOT represent data dependencies



Use case diagram



Why are use case diagrams important?

- Requirements elicitation and organization
  - E.g., to help to show how different user stories are related
- Planning
  - E.g., to prioritize users or scenarios
- Testing
  - E.g., help in constructing acceptance tests with good coverage

Scenario 1: Academic Management

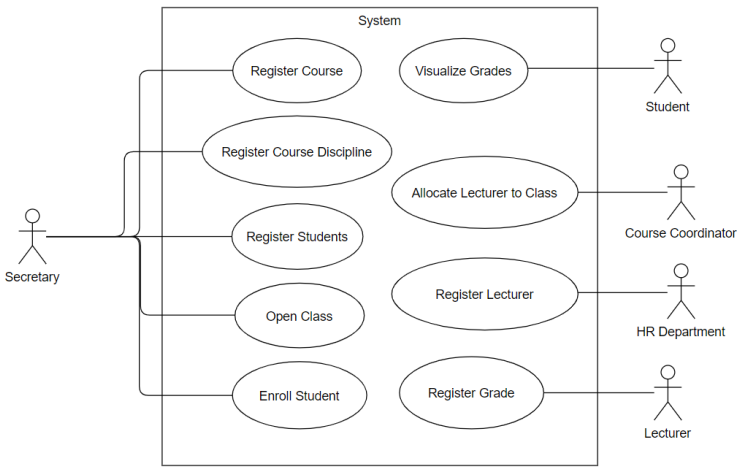
- **REQ1:** The system should allow the secretary to register courses.
- **REQ2:** The system should allow the secretary to register course disciplines.
- **REQ3:** The system should allow the secretary to register course students.
- **REQ4:** The system should allow the human resources department to register lecturers.
- **REQ5:** The system should allow the secretary to open classes of course disciplines.
- **REQ6:** The system should allow course coordinators to allocate lecturers to classes.
- **REQ7:** The system should allow the secretary to enroll students in classes.
- **REQ8:** The system should allow lecturers to register grades of students for their classes.
- **REQ9:** The system should allow students to visualize their grades.
- **REQ10:** The system must control the situation of a student, who may be enrolled, locked out, graduated, or have abandoned the course.

Actors

Use Cases

?

Scenario 1: Academic Management



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