

CSC444 - Software Engineering I

Week 3/1

Requirements engineering

- Requirements engineering is about modeling
 - creation of abstractions
- Diversity of audience implies different perspectives
 - business: the way the business is done
 - information: flow and structure of information
 - functionality: external behavior of the system
 - implementation: internal functioning
- Success criteria is not the system itself, rather its impact on the environment

Goals of requirement analysis

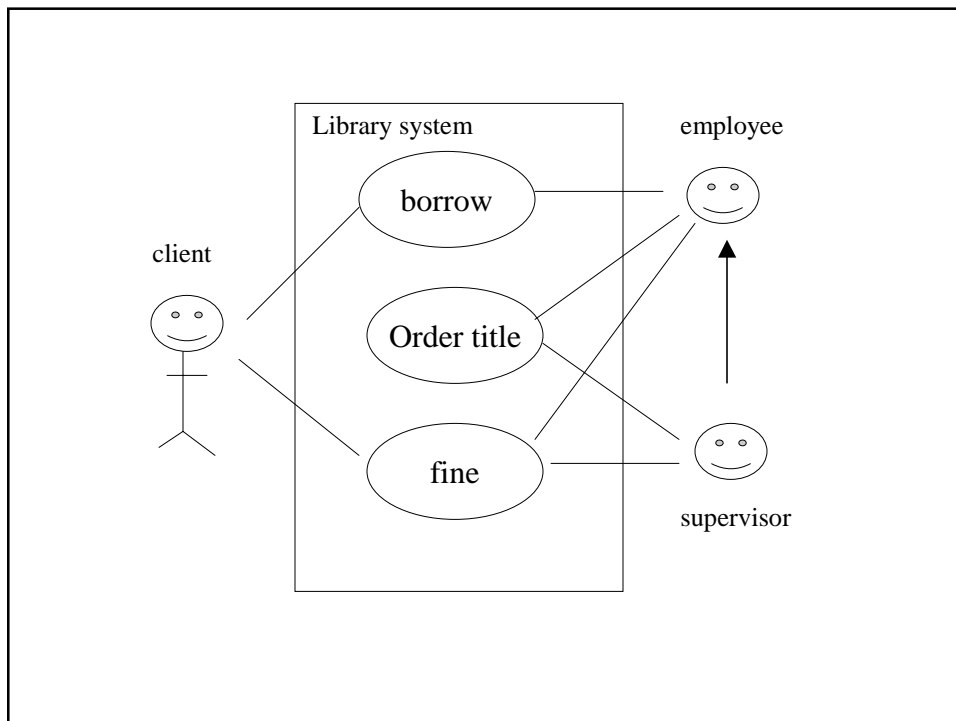
- What vs. how
- boundaries
- actors
- functionalities
- constraints
- communication!

OOA

- Fundamental idea is encapsulation of data and its associated functions
- Different methods: BOOCH, OMT, SM
- Different notations: UML (RUP)
- OO approaches cover the entire life cycle
- Use cases provide a tool for requirement analysis

Use-case modeling

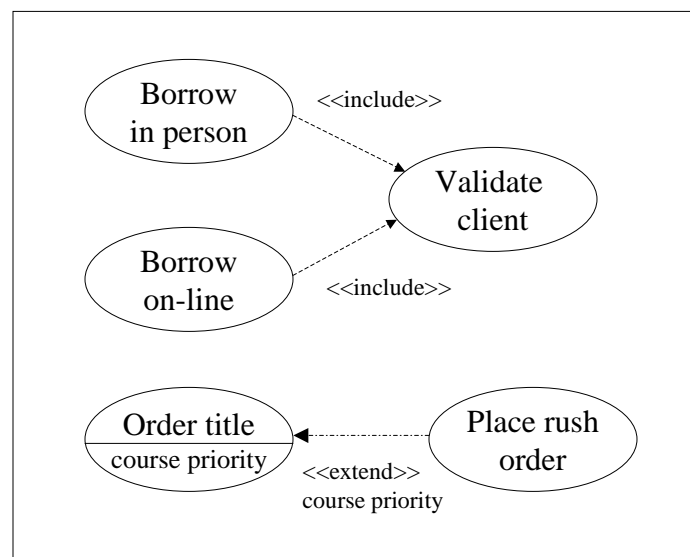
- A use case specifies the behavior of a system
- A use case is a description of a set of sequences of actions that a system performs
- Actors represent a coherent set of roles that users (or other systems) play when interacting with a use case.



Borrow use case

- Check client id
- Check book status
- Check out book copy
- Notify client of due date

- These are the observable behavior of the system



Order title use case

- Identify book info
- Create catalog info
- Select vendor
- Determine course priority *
- Send order to vendor

- * The extension point

Activity diagrams

- You can use activity diagrams to describe your use cases
- They are similar to flowcharts
- Alternatives are
 - FSM, StateCharts
 - English
 - Sequence diagrams

