

Modeling Collaboration

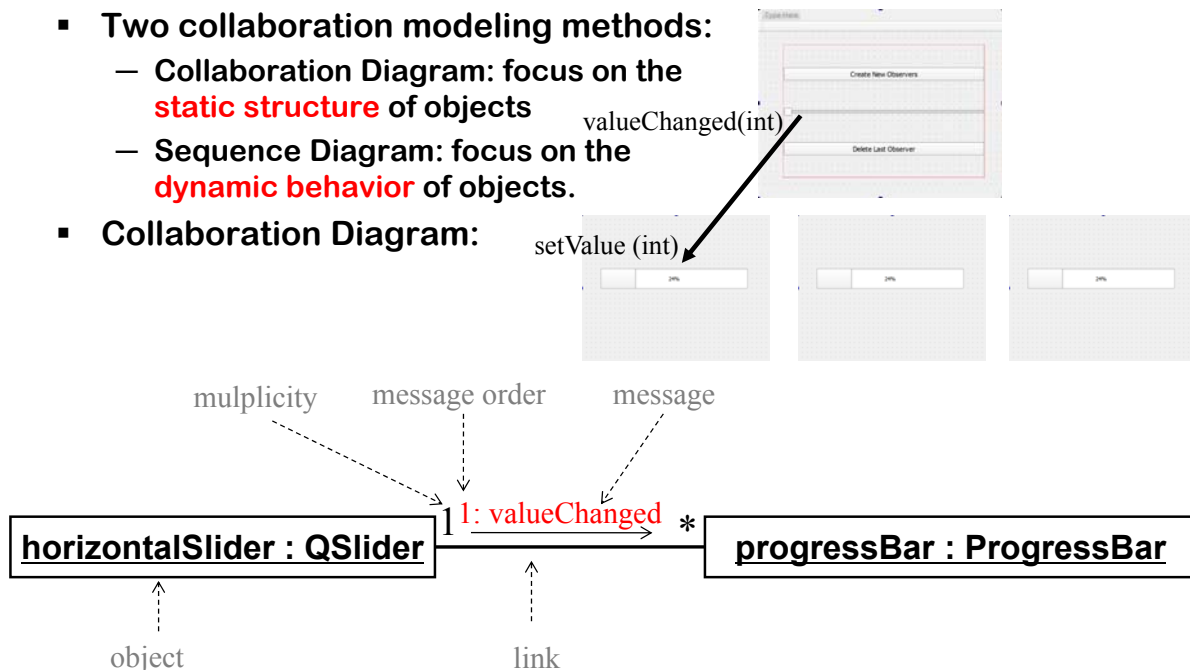
Alex X. Liu

Collaboration Modeling

- Two collaboration modeling methods:

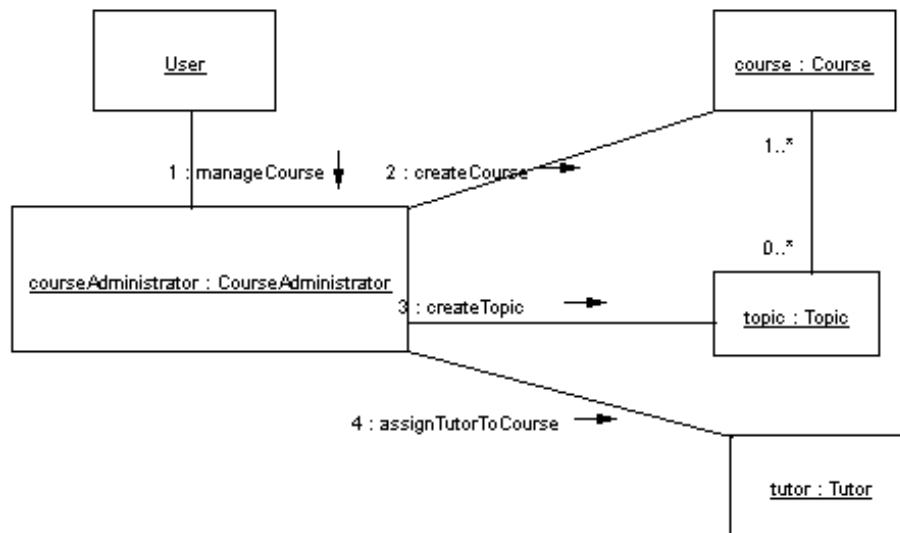
- Collaboration Diagram: focus on the **static structure** of objects
- Sequence Diagram: focus on the **dynamic behavior** of objects.

- Collaboration Diagram:



Another Collaboration Diagram Example

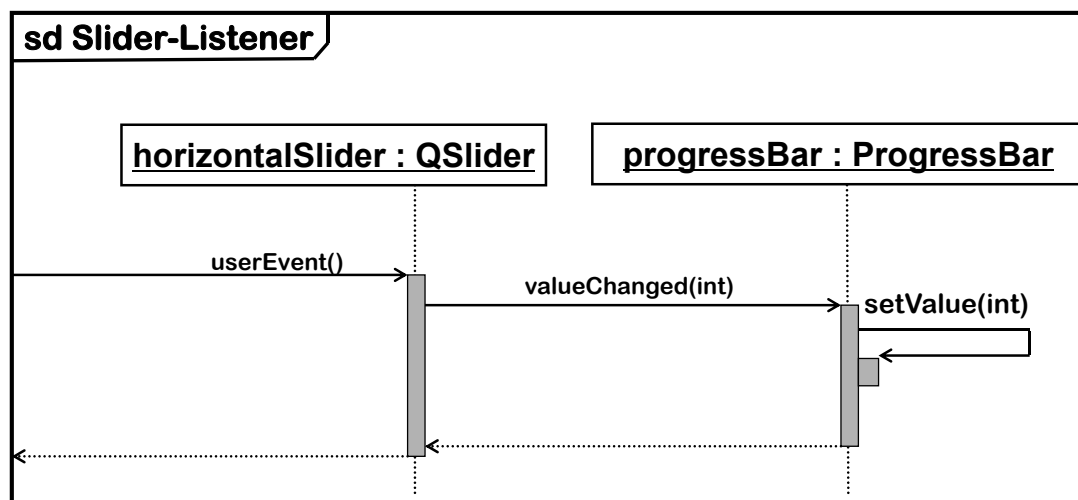
Collaboration diagram



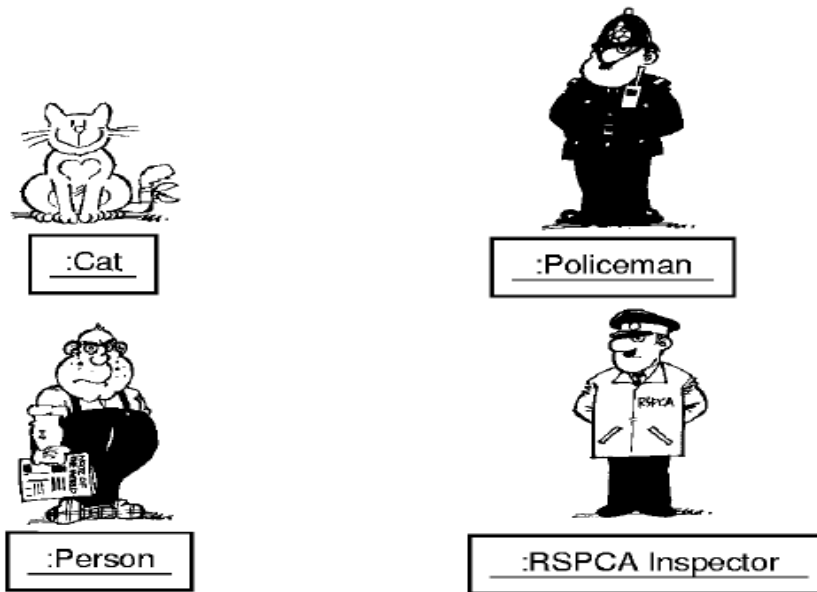
Collaboration diagram for the "Manage course information" flow

Sequence Diagram

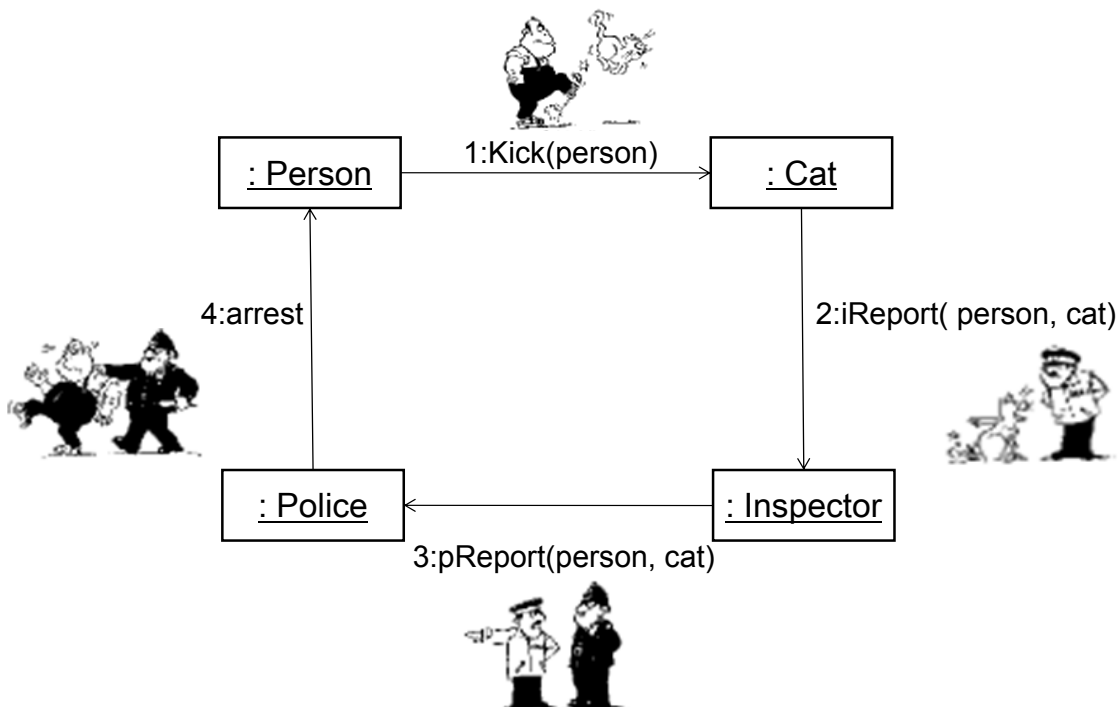
- Sequence Diagrams illustrate one collaboration instance
 - Use of spatial position to reflect time dimension
 - Use of vertical bars to denote object "activity"
 - Graphic denotation of returns from operations
- One sequence diagram may not be sufficient to document a collaboration.



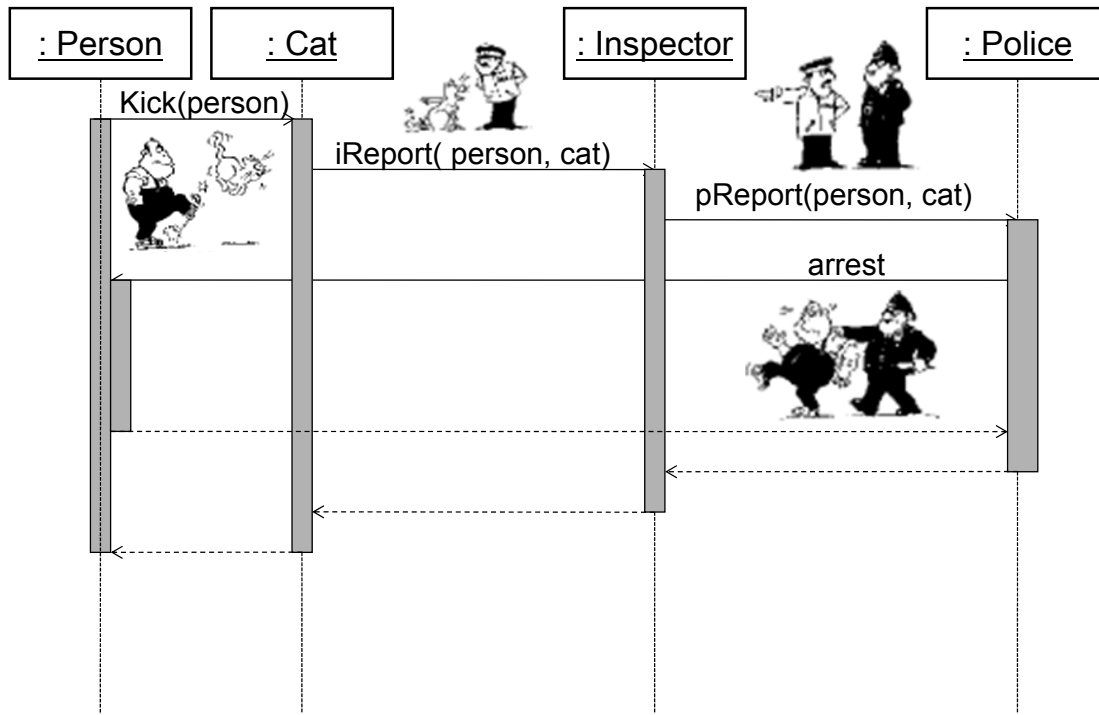
Sequence and Collaboration Diagrams for the Same Collaboration



Collaboration Diagram



Sequence Diagram



Alex X. Liu

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Collaboration Diagrams and Sequence Diagrams

- **Collaboration Diagram:**
 - Order of interactions is implemented by ordering
- **Sequence Diagram:**
 - Order of interactions is implemented by vertical positioning
- **A collaboration is typically specified using:**
 - **One collaboration diagram**, naming all of the roles, relevant multiplicities, links, and a sequence of messages.
 - **Multiple sequence diagrams**, each describing a key collaboration behavior among the objects.
- **Other diagrams learned: Class Diagrams and Object Diagrams**
 - **Class diagram:** document the design of classes and the static relationship among classes
 - **Object diagram:** document the snapshot of multiple objects and the relationship among objects at that moment.

Alex X. Liu

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