

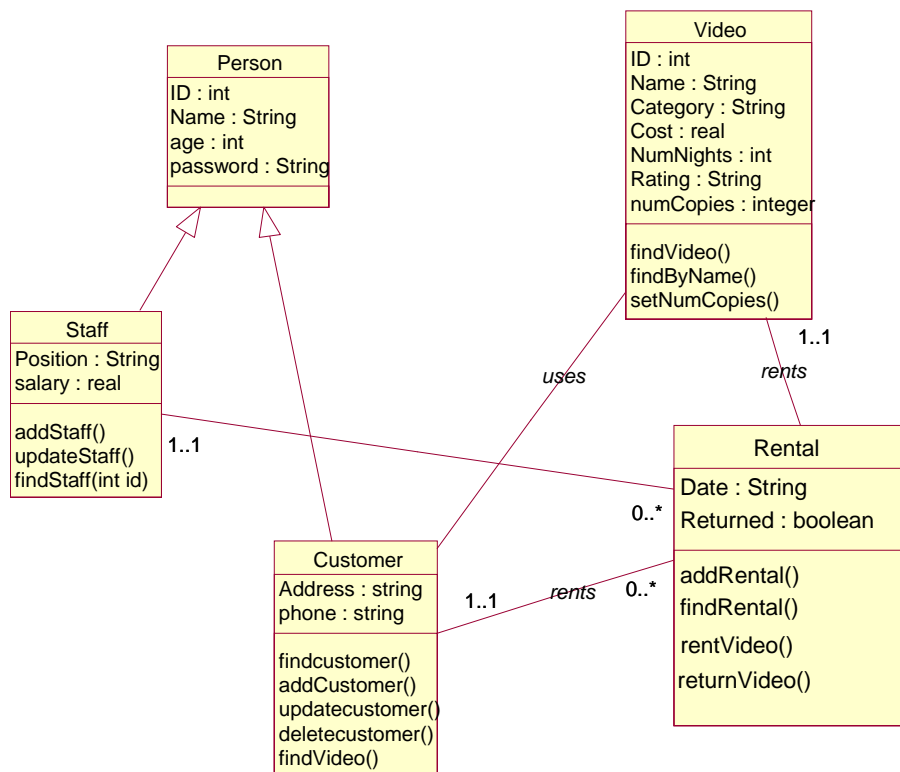
# COMPSCI 732

## In-class Activity – Collaborative Tools Simulation & Discussion

In this activity session we will focus on identifying and simulating the behaviour of an example application that requires collaborative editing support. However, we want to provide these groupware facilities via a plug-in, component-based architecture, rather than hard-code them into the application.

### Exercise #1:

Consider the following UML diagram for an on-line video rental/review system:



A team of software engineers wants to make use of a UML-based design tool on their next project to enable them to work collaboratively on such designs.

In groups of two or three:

1. Think about collaboratively designing the above OOA diagram where team members are dispersed i.e. same-time, different location and different-time, different location. This might occur when team members work off-site for part of the time e.g. from home; when development is being outsourced; and when virtual teams in different countries are collaborating. What kinds of collaborative support might we want in these two different situation (same-time, different place vs different-time, different-place)?

2. Have two group members try and draw the above design together using ONE piece of paper and ONE pen/pencil.
3. Have two group members try and draw the above design together using ONE piece of paper and TWO pens/pencils.
4. Have one group member work on the design with a piece of paper/pen on one side of the room, and the second group member work on the SAME design with another piece of paper. If you have a third group member, have them pass “messages” between each “collaborative editing tool” to instruct the other user to update their copy of the design appropriately. If you only have two group members, shout the messages to each other across the room... (this could get fun! ☺)

Together:

- How do you decide who draws what? How do you decide who has the pen when? How do you merge changes done in each copy of the design?:

### **Exercise #2**

In groups of two or three:

1. Think about collaboratively editing a document together e.g. program code or a report. What are the kinds of collaboration that might be useful for this task?
2. Have two group members try and write the first paragraph of this activity on ONE piece of paper with ONE pen.
3. Repeat, with TWO pens.
4. Repeat, with the two group members having a piece of paper each and on opposite sides of the room. Use a third group member to relay changes between – or if only two of you, shout the changes back and forth... ;-)

Together:

- How was this exercise similar/different from the collaborative drawing one?

### **Exercise #3**

In groups of THREE or FOUR:

1. Have one person editing environment #1, another editing environment #2. Put these people on opposite sides of the room and have them start work on drawing the UML diagram above.
2. Have another person be a collaborative editing server. If you have a fourth person, have them go to each “editing environment” and “plug in” collaborative editing functionality. What do we need to do to have these editing tools become “collaboration aware”?
3. Repeat the collaborative, synchronous design of the UML diagram with each user trying to draw/change parts of the diagram. If you have a fourth person, have them carry messages between the editing tools. If you don’t, shout the messages, relaying them from editing tool #1 to server to editing tool #2.
4. What happens if the collaborative work server goes down? How could the two designers continue work during this time? What should happen when it becomes “live” again??
5. If time permits, try doing some asynchronous editing and merge changes. What do the editing tools/collaborative work server need to do now?

Together:

- Discuss the results

### **Homework**

What kinds of approaches have been developed to support this kind of “plug and play” collaborative work support? What are the particular challenges of this kind of software application, in terms of both infrastructure and user interaction?