

CSci 435: Homework 4

Object-Oriented Design

Due March 15th by 11:00 AM

Summary

Starting with the high-level design created by the team leaders, create a detailed object-oriented design for our project. You should document *at least*:

- Module interfaces: the interfaces of all of the classes that will be in the final implementation
- Static design: class relationships using one or more class diagrams
- Dynamic design: key dynamic object relationships using sequence, collaboration, activity, or state diagrams
- Prose: natural language descriptions of key domain concepts, abnormal behaviors, the impact of evolution on your design (milestone development), interesting or important design decisions, etc.

You must work in pairs on this assignment. Make sure the names of both students appear in the HTML document.

For now you can ignore the design of the user interface.

Documenting the Design

You must use the same HTML formatting as the high-level design document. Your document should provide enough detail so that you (and I) can be fairly sure that there is very little risk in implementing your design. You can reduce the risk by using the use cases to “mentally simulate” the execution of the system.

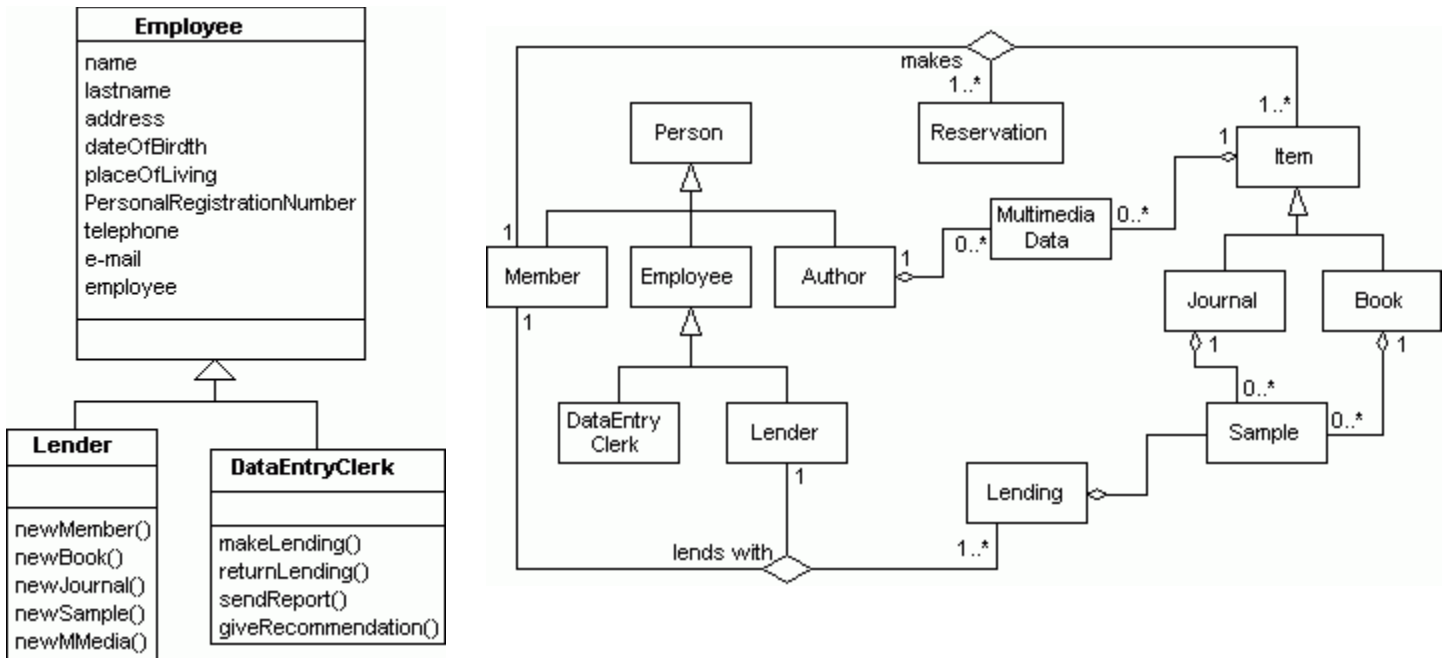
Note that this assignment is to be done during the actual design and implementation of the first milestone. Your experiences working on the first milestone should help you prepare this document. In the unlikely event that the design you choose for milestone 1 is perfect, this assignment will basically be after-the-fact documentation. However, it is more likely that the design for milestone 1 will be suboptimal, and will need to be updated for milestones 2 and 3. Your job for this assignment is to create the updated design for the final software.

Tools you can use to draw your diagrams:

- Rational Rose is a full-blown UML tool, but costs money. (Rational wouldn't give me a Linux license for our labs.)
- ArgoUML is an open-source UML modeling tool which is free.
<http://argouml.tigris.org/> You'll need to install the Java runtime environment, but it's otherwise easy to install.

- Microsoft Visio has a UML stencil, but costs money if you don't already have it.
- Dia is an open-source diagramming tool that has a library of UML shapes.
<http://www.lysator.liu.se/~alla/dia/>.

Class diagrams can get fairly complicated, especially if each class box contains all of the fields and methods. You may want to document the class details separately, then just use boxes with class names in the class collaboration diagrams. For example:



Submission

- You must email me a .zip file containing your main validated HTML file, as well as any supporting images or other files.

Grading

200 points total

Both team members earn the same grade