

**Exercise for the lecture Modeling Methods in Computer Science,  
Winter Semester 2007/08**

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Consultation-hour: Thursday, 15:00-16:00

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**Exercise Sheet 5**Due date: **21.11.2007, 14:00**

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**Exercise 9: UML Use Case Diagram**

The functionality of our interactive cafeteria-menu is described as follows:

*The user can have a look at a menu. Moreover, he can comment on a dish. In order to do that the user must be able to log in and choose a dish. The admin can enter a cafeteria-menu by either choosing a dish which has already been entered or by entering a new one. The admin has to log in in order enter a new menu.*

Please model the functionality of the interactive cafeteria-menu in the form of an UML use case diagram!

Hints:

- Which persons do you find in the text? Who can use which function?
- Also think about which use cases can be used by more than one person. Are all the use cases separate or are they used by other use cases or do they extend them? Please list the possible “uses”- or “extends”-relations (if there are any).

6 Points

**Exercise 10: UML-Interaction Diagram**

Now, it is Your task to specify the component for entering comments in the interactive cafeteria-menu. The entering of comments shall proceed as follows:

*First of all, the comment module generates an input window for entering a username and a pass word. The user enters these into the window. The input window sends the username as well as the pass word to the comment module and then closes. The comment module spawns an authentication thread and sends the username and pass word there. The authentication thread then checks the username and the pass word. If they are correct the thread sends an “ok” back to the comment module; are they not correct an error message will be sent instead. The authentication thread closes. If there was an error the comment module opens a window showing an error message. The user can close this window. If everything was correct the comment module generates a window for entering a comment. The user enters the comment into the window. The window sends the comment to the comment module and then closes. The database reports the successful entry of a comment to the comment module. This then opens another window reporting the successful entry of a comment. The user closes the window.*

Please model the procedure described above.

(a) as a Sequence Diagram

(b) as a Collaboration Diagram

Hints:

- Which objects can You identify and with which other objects do these communicate?
- Please define appropriate messages between the objects, keeping in mind the active phases as well as the lifetime of the objects.

7 + 7 = 14 Points