

Web Engineering

Winter Semester 2015/2016

Homework #5 (contains 3 exercises – 35 points)

Due on 03.02.2016, 12:00

Please submit your solutions (.pdf) using the repository, in the folder that is provided for your group (ass06).

In Team: <https://ist.uni-koblenz.de/teams/de/user/registration/s84gfhesga> you can click on “Link zum SVN-Repository” (folder icon) in front of your group name to directly go to your own folder in the repository to submit the exercises.

You have to submit your solutions till the mentioned deadline (03.02.2016, 12:00). Submitting the solutions of the exercises and reaching **50% of the total points (which will be 150 points over the course of the semester)** of the exercises are mandatory **to be able to take part in the final exam**.

Bonus System: By reaching 75% of the total points of the exercises, increase your point score by 5% of the total number of points that can be reached in the exam.

By reaching 90% of the total points of the exercises, increase your point score by another 5% of the total number of points that can be reached in the exam.

We will discuss the solutions of this exercise in the exercise group. Each group should present their results at least two times over the course of the semester.

Exercise 1 (BPMN 2.0 Syntax and Semantics):

- a) What do *pools* present? (1 points)
- b) What are the *Lanes* normally used for? What can they generally present? (2 points)
- c) Draw the two kinds of notations, how the output from one task can come to another task as its input. (3 points)
- d) Does BPMN2.0 need BPEL? Please explain your answer. (2 points)

Exercise 2:

- Find the semantical differences between the BPMN diagrams presented here. To this end, provide the list of possible activities for each diagram. (5 points)
- By which diagram is there a timing dependency? Please explain. (3 points)
- What is the difference between diagram *c* and diagram *b*. Please explain. (3 points)
- What are the possible problems of the diagram *e*. (3 points)

Diagram (a)

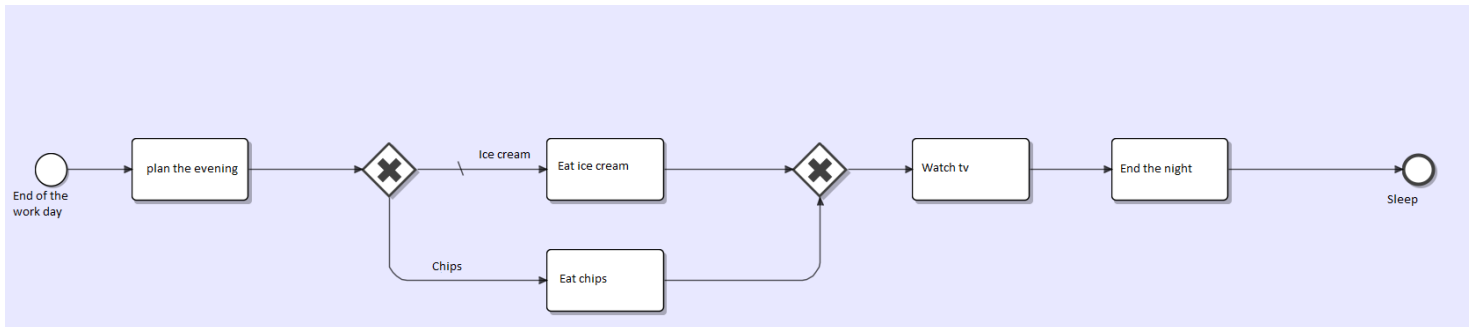


Diagram (b)

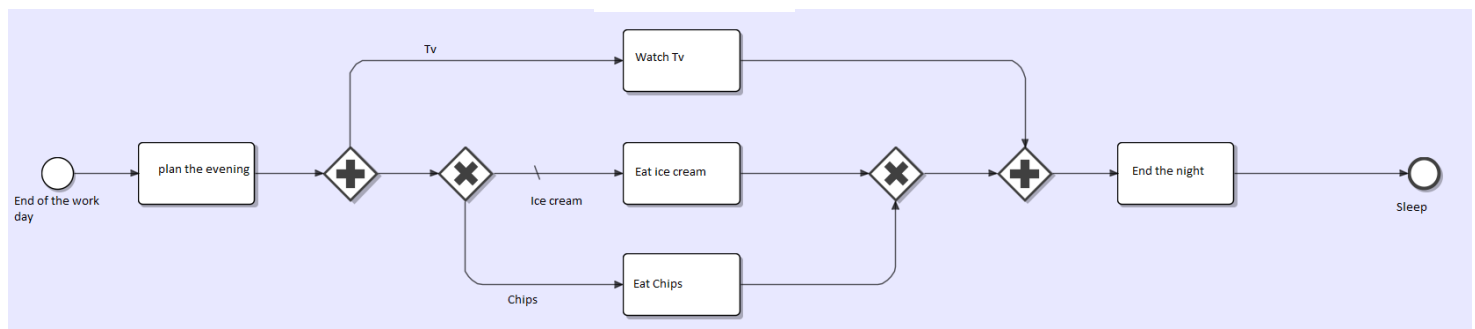


Diagram (c)

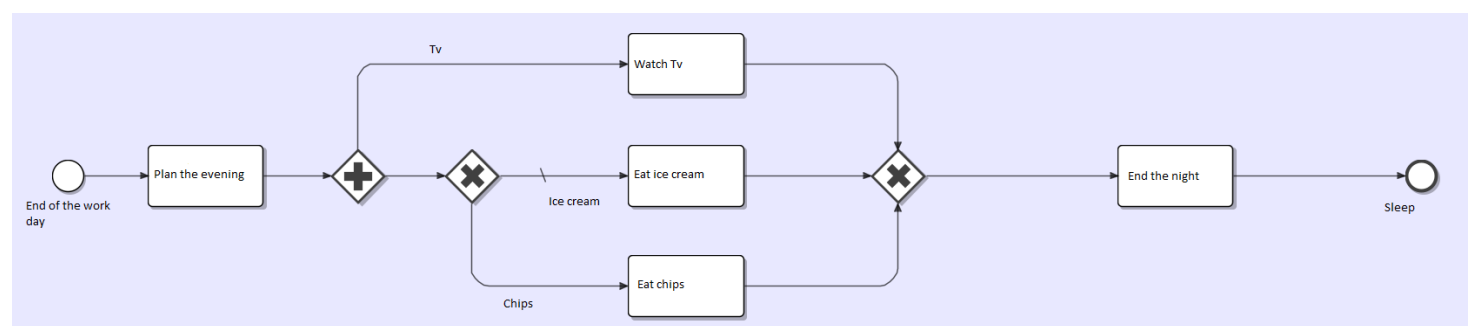


Diagram (d)

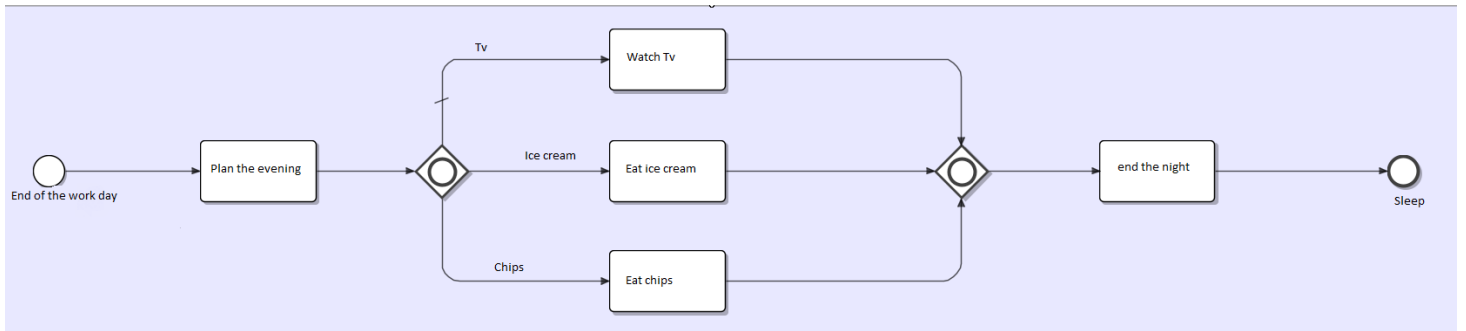
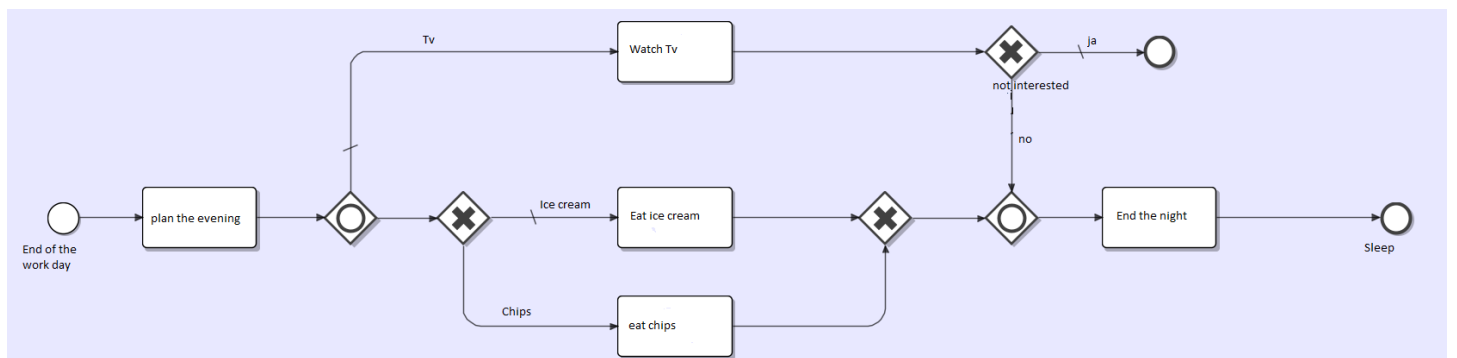


Diagram (e)



Exercise 3: Text to Model

Model a BPMN diagram, which is explained in what follows. (13 points)

The process is an example for the reimbursement of expenses of an employee in a company. The employee should determine the costs that the company should return. For instance, the costs could be to buy a book, equipment, or software. In a normal day hundreds of such cases can happen. Concentrate on the fundamental flow of the processes.

1. Once the expense report is received, an account must be created for the employee if one does not exist.
2. The costs under 200 euro must not be approved.
3. The costs over 200 euro must be approved by the department manager.
4. If the application must be rejected (because it is not approved), the employee must be informed by email.
5. The reimbursements are directly transferred to the account of the employee.
6. If this does not happen in seven days, the employee will be informed about the status per email.
7. If the request exists over 30 days, the process should be stopped, and the employee should be informed that a new request must be made.