

Assignment 4 - state behaviour

Deadline: Friday May 17th 23:59

Introduction

In this assignment you will use the state machine diagram to model object state behaviour.

You will work in pairs and use a pair modeling approach.

Assignment Part 1

Model the state behaviour for the elevator case for a flat building. First steps are discussed during the lecture (see the lecture slides).

- The model is independent of the amount of floors
- It should be possible to 'remember' (and forget) what floors are requested
- The elevator can be requested with an up - and down button on the outside of the elevator
- Inside the elevator the floor can be chosen
- The doors have to be closed before the elevator can move

Assignment Part 2

Model the state behaviour of the **order** object from the food ordering system case (assignment 2).

Recommended steps (see book for extra explanation for the steps):

1. Re-read the case text and your notes
2. Examine the deliverables of the previous assignment
3. Consider the order as the central object
4. Identify all the states the order object has in the food ordering system
5. Identify the transitions from one state to another
6. Identify the triggers/signals/events that cause the transitions
7. Make the state machine diagram
8. Update your class diagram (and others) if needed

Deliverables

You should hand-in a report that consists of:

- 1 state machine diagram, explained with text, that covers the lift case for a flat building (assignment part 1)
- 1 state machine diagram, explained with text (assignment part 2)

- that covers the states from order to delivery
- Enriched with the use of guards
- Enriched with the use of events/triggers/signals
- Enriched with do activities (internal state activity)
- Updated class diagram of the food ordering case (included as appendix)

The diagrams should be consistent related to:

- The classes that are present in the class diagram of the domain model

In general:

- Your report should be neat and well structured.
- The UML diagrams should be consistent in style [3]

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References

1. Visual Paradigm, community edition,
<https://www.visual-paradigm.com/download/community.jsp>
2. Bennett, Simon, Farmer, Ray, Mcrobb, Steve, *Object-Oriented Systems Analysis and Design Using UML*. 4th edition, McGraw-Hill Higher Education, 2010
3. Ambler, Scott W. *The Elements of UML (TM) 2.0 Style*. Cambridge University Press, 2005.