

Assignment 3 - activity Diagram and communication diagram

Deadline: Friday May 3rd 23:59

Introduction

In this assignment you will use activity diagrams to model behaviour.

Self study material

Activity Diagram

<https://www.youtube.com/watch?v=gxUHSVxM6Do>

Activity Diagram with Swimlanes

<https://www.youtube.com/watch?v=bYB7Dcbr1tc>

Activity Diagram with Object Node

<https://www.youtube.com/watch?v=IKHbNZxzySQ>

Communication diagram:

<https://www.youtube.com/watch?v=nyFctaNKW6c> (communication diagram from 3:46)

Chapter 5 and 9 of [2]

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

Assignment Part 1

Express the internal logics (flow) of 4 use cases of assignment 2 with separate activity diagrams.

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

1. Read the deliverables of the previous assignment
2. Choose a use case (**ask a TA if you are unsure**)
3. Identify the actor(s) that is/are involved
4. Read the actor <-> system interaction in the use case description
 - a. Identify activities
 - b. Identify control flows & nodes
 - c. Identify object flows & nodes
5. Translate the description to an activity diagram

6. Repeat from 2 until you have 4 diagrams

Assignment Part 2

Express the communication between objects of the class diagram of assignment 2 with a communication diagram.

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

1. Read the deliverables of the previous assignment
2. Analyse the class diagram
3. Identify the actor(s), objects and associations that are involved
4. Layout the diagram
5. Add messages
6. Validate

Deliverables

You should hand-in a report that consists of:

- 4 activity diagrams, explained with text
 - that cover 4 different use cases from the case that was given in assignment 2 (1 activity diagram per use case)
 - Enriched with the use of object nodes
 - Enriched with the use of swimlanes
- 1 communication diagram
 - that is an object diagram of the class diagram of assignment 2
- diagrams of assignment 2 (included as appendix)

The diagrams should be consistent related to:

- The actors that were identified in assignment 2
- The use cases that were identified in assignment 2
- The objects that were found (and resulted into classes in the class diagram) in assignment 2 **update the class diagram if new objects were found during activity / communication diagram modelling**

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.