

Voluntary exam 2

- The main topics will be:
 - Use cases
 - Contract on system/component operation
 - Activity diagram.

Use cases

- You should know the syntax of use case diagrams
- The difference between a brief use case, a complete use case (essential) and a complete use case (real)
- What is the purpose of a use case?
- What does a use case need to satisfy?
- The relationship between use cases and user interfaces
- The relationship between use cases and non-functional and functional requirements
- Weaknesses and strengths of use cases
- How do different types of use cases relate to design issues?

Use cases

- What is the relationship between use cases and domain models?

Use cases

- How to write the use case specification using the template:
 - Use case name
 - Goal
 - Description
 - Pre-condition
 - Post-condition
 - Main flow
 - Alternative flow

Use cases

- The meaning and syntax of included use cases
 - What is good and bad about include
- The meaning and syntax of extended use cases
 - What is good and bad about extend
- Inheritance between actors
- When can we split use cases horizontally and vertically?
 - What is the gain and loss when splitting?

Use cases

- Why do the lecturers of this course believe that using more structure on the use cases improve the quality:
 - Action block (pattern)
 - Input
 - Responsibility
 - Output
 - Assume
 - Choice
 - Why is the action block structure potentially good
 - What is potentially good about assume and choice
- Important issues regarding the pre- and post condition

Contract

- You should be able to write contracts for system/component operations.
- It is extra important to understand the use of post-conditions in the contract. How can the domain model be used to show the changes done to the system under consideration?

Activity diagram

- You should know the syntax and semantics of:
- Call action node
 - Call action node
 - Send signal
 - Accept event action node
 - Accept time event action node
- Control nodes:
 - Initial node
 - Activity final node
 - Flow final node
 - Decision node
 - Merge node
 - For node
 - Join node

Activity diagram

- You should also know
 - what is an activity and activity partitions
 - How to call an activity within a call action node
 - What is an object node and how is it used
 - What is an input parameter
 - What is an interruptible activity regions
- You should be able to create and read these diagram