

Object oriented analysis and modeling

Domain analysis and modeling

Robert Lukotka

lukotka@dcs.fmph.uniba.sk

www.dcs.fmph.uniba.sk/~lukotka

M-255

Domain analysis

- Domain analysis - FOLDOC
- Domain expert : Somebody who works in a domain and who has a deep knowledge of it (or part of it).
- You do not need to become a domain expert, but you need some knowledge to communicate with other stakeholders.

Domain analysis

Benefits:

- Faster development: You will be able to communicate with the stakeholders more effectively.
- Better system: more efficient solution, fewer mistakes, you know which procedures and standards to follow . . .
- Anticipation of extensions
- Systematic domain analysis is the key for software reuse

How to create a domain model?

Inputs:

- Domain expert interviews
- Technical literature
- Study use cases
- Analyze similar products
- ...

How to create a domain model?

Domain model is a conceptual model of the domain that incorporates both behavior and data.

Simplifying the domain model

Analysis patterns

How to represent the model

- Text representation may be sufficient
- If there is a plenty of relationships between entities, graphical representation may be useful

UML diagrams in domain modeling

Class diagrams are the basic tool. May be complemented by

- State diagrams
- Activity diagrams
- ...

UML class diagrams

- Shows structure and relationship between classes.

Used at various steps of SW development cycle:

- Domain model
- Analytical model
- Design model

The closer to the implementation, the more details present. For implementation phase, class diagrams are rarely the preferred form of presentation.

UML class diagrams

UML class diagrams, for now we focus only on classes and relationships.

UML class diagram in domain modeling:

- Example 1
- Example 2
- Example 3 - Generalization sets
- ...

Resources not linked in the presentation

- Domain analysis