Hotel-project
Week 2: Design 1

This week's topics are: *Domain model* and *Brief use cases*.

Assignment

Try to evolve the models in parallel, rather than sequentially.

Format

Please hand in the report through mail as a **single** PDF file. Add your group number and the names of all group members to the report's front page. The report shall be named **assignment_2_group_x** with **x** being your group number.

Domain model

The domain model, or conceptual model, is an important description of the problem domain. It should be established at an early stage of the analysis and then updated throughout the process. It identifies a number of entities, called concepts, on an abstract level, and describes the relations between them.

It is of great importance since it is the first model which is really object-oriented. Before even considering the design of the system, the domain model helps with analysis of the problem, in terms of clearly separated entities and how they relate.

The domain model with its concepts, attributes, responsibilities (high-level operations), and roles is also important since it defines a common vocabulary, which can consistently be used by the project members. The vocabulary defined by the domain model should be used when writing the use cases.

Use the results from last week to identify the concepts for the domain model. Discuss for each item if it is a suitable and relevant concept. In some cases you will find that it is more suitable to make it an attribute. Make sure everybody gets a say.

The concepts should contain attributes and, if needed, responsibilities. Add associations to the model. They should all be given multiplicities and roles. Keep in mind that there are many kinds of associations (see lecture notes).

Vocabulary

Then compile a list of the words you have used for concept, role and association names. This vocabulary is intended to explain the meaning of the key terms that you use in your design. It is important that everyone in the group agrees on what is meant by the concepts and attributes etc.

Use cases

A use case depicts a certain course of events. By writing several use cases, all important activities are covered. The use cases are very straight forward and are well suited for communicating with the client.

When you create use cases you should clearly define who the target readers are. This has effect on the contents and level of abstraction. Furthermore, use the vocabulary of the domain model when writing the use cases.

Identify the actors of the domain. Then produce a list of possible use cases. After that, discuss the use cases and prioritize them. Construct a use case diagram which includes all actors and use cases. Associate each use case to the actors involved. Give a brief description of each use case. The description shall contain the name of the use case, a list of actors involved, a goal description for each actor, and a summary of the use case in a couple of sentences. Next week you will work in detail on some of your use cases. Add missing actors to the vocabulary with a short description. Also assign one or multiple responsibles to each use case. This should be based on the requirements responsibilities.

Checklist

- Identify the possible concepts.

- Choose the relevant concepts, attributes and responsibilities.

- Create a domain model with concepts, attributes, responsibilities, associations, multiplicities and roles.

- Write a vocabulary.

- Identify the actors and use cases.

- Draw a use case diagram.

- Prioritize the use cases.

- Write a brief descriptions of the use cases.

- Assign each use case to one or more group members based on the requirement responsibilities.