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Analysis, Design and Implementation

Topic 6:
Case Study

Introduction

- The examples we have been seeing in the lectures are very simple. They have to be, because they are designed to show specific features of UML.
- Today's lecture isn't really a lecture. It's a prompted examination of a more complex case study.
- We do not fully explore the case study in the lecture. You'll have to do some of it in your own time.

The Scenario

- Look at the scenario in your Student Guide.
- It's your job during this lecture to spend some time thinking about how you would approach the analysis and design of this system.
- For the purposes of this case study, you are required to do the following:
 - Generate use case diagrams
 - Generate class diagrams
 - Generate activity diagrams

Step One

- Your first step should be to understand the scenario.
 - Read it through
 - Ask for clarification if you need it
 - Resolve ambiguities
- Once you have done that, a good starting point is either NLA or identifying use cases
 - You should do both of these before you progress to the next part of the analysis and design.

Step Two

- Having identified some use cases and candidate classes, you should assess each for inclusion in your class diagram.
 - Get rid of redundancies
 - Get rid of synonyms
 - Get rid of those things you cannot eventually develop.
- Make a case for inclusion or exclusion for each of the candidates you have.
- Then, construct your class diagram.

Step Three

- Next, you need to consider how the current system works.
- Design high level activity diagrams for the following processes:
 - Making a reservation
 - Viewing a reservation
 - Cancelling a reservation
- These should be diagrams of how the system currently works.

Step Four

- Having developed diagrams of the existing processes, you should then design the low-level activity diagrams that will handle the process when it is implemented.
 - Work out how you will handle what was once done by humans.
 - Work out how to improve the flow of logic through each of the processes.
 - Draw the diagrams.

The Seminar

- During the tutorial, you will be given a worked solution to this exercise.
 - It will very likely deviate from your solutions, but that's okay. It's the process that matters – there are many right answers.
- During your private study time, you should attempt those parts of the system that have not been addressed in the laboratory session.
 - Your solutions to these will be discussed in the tutorial.

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Any Questions?



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