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Object-Oriented Modeling with UML

Use Case Diagram

Explanation of Exercise Examples

Christian Huemer and Marion Scholz

Presented by Nicholas Bzowski

Use Case Diagram
Example: Microwave

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Example: Microwave

Model the use cases of a microwave oven and their standard processes.

Use Case Diagram
Example: Restaurant

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Example: Restaurant

Create a use case diagram with the use cases in a restaurant.

Use Case Diagram

Example: Withdrawing Money for Food

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Example: Withdrawing Money for Food

Create a use case diagram for the following situation: A person goes out to eat. In the course of this, it may be necessary for the person to withdraw money.

Use Case Diagram
Example: Children’s Room

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Example: Children’s Room

Create a use case diagram for the following situation: A child and its parent play games together. The child is well behaved and always has to put the toys away on their own.

Use Case Diagram
Example: Car Service Station

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Example: Car Service Station

Create a use case diagram for the following situation: In a car service station, a repair is carried out by either an apprentice or a master mechanic. A tire change is always carried out by two apprentices together.

Use Case Diagram

Example: Reading the Use Case Diagram

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Example: Reading the Use Case Diagram

Answer the following questions about this use case diagram:

Which actors (or combination of actors) can execute each use case?

A	
B	
C	
D	
E	
F	
G	
H	
I	
J	

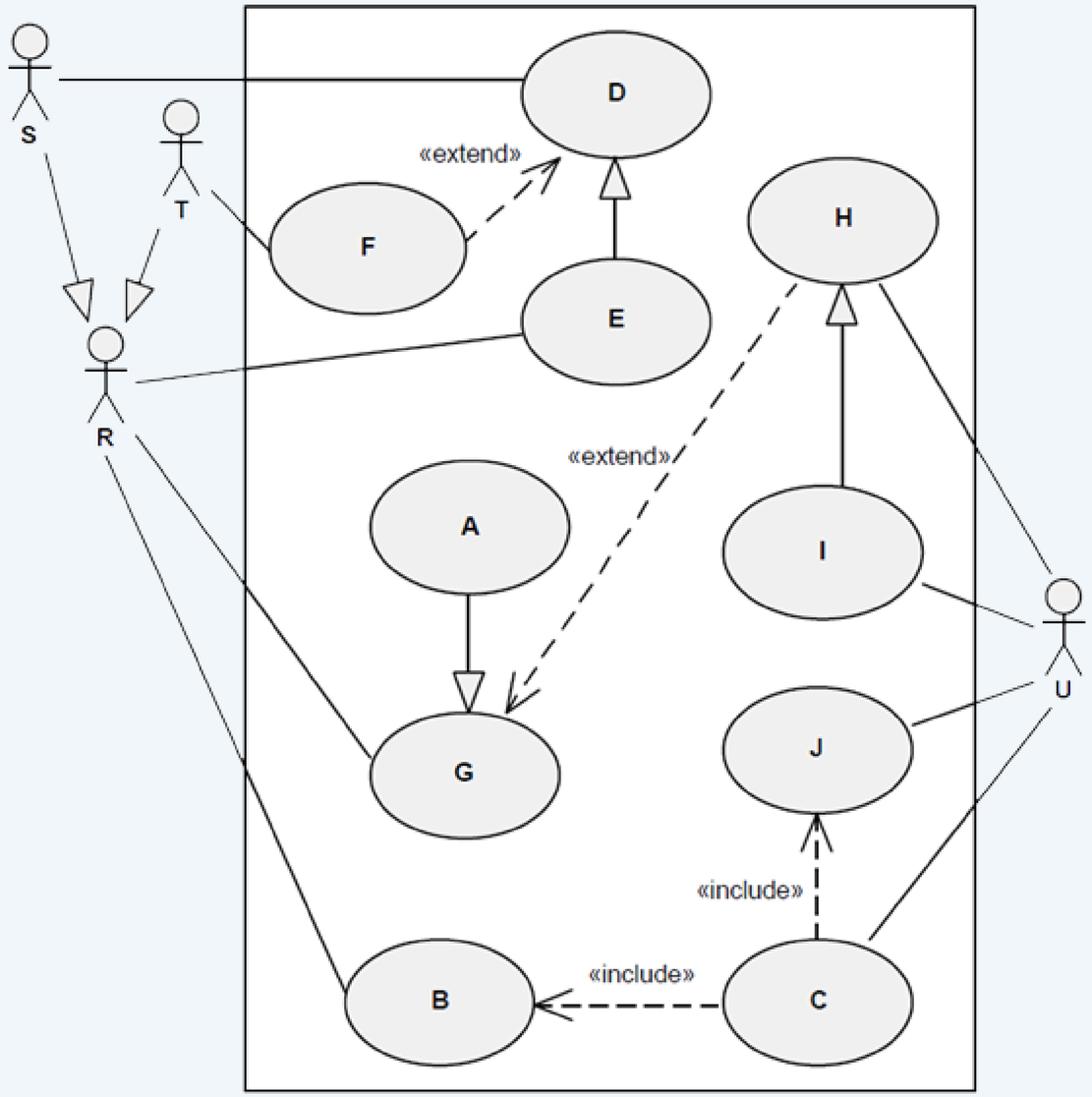
Does B have to be executed if C is also executed?

Does H have to be executed if G is executed?

Is J or C the base use case?

Is F or D the base use case?

Can I also extend A?



Use Case Diagram

Example: Peer Review System

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Example: Peer Review System

In order to publicize research results, they are presented at international conferences and then published in the corresponding proceedings (e.g. ACM/IEEE International Conference on Model Driven Engineering Languages and Systems).

As the number of papers submitted is often very large, a selection process is required to ensure that only high-quality articles are included in the conference program. In most cases, the selection is based on a so-called peer review system, in which each paper is submitted to around three experts (reviewers) for assessment. These assess the papers and then those papers with the best reviews are selected for publication.

As the administrative workload at a large conference is very high, a system is to be developed that relieves the burden on the organizers. The following specification is given:

The system to be developed can be used by the organizers, the reviewers and by the authors. The names and email addresses of all persons involved are known.

Each conference has a unique name, a venue, a start and end date, as well as various deadlines, which are specified in more detail below. In addition, a conference can contain any number of sub-events such as tutorials and workshops, for which the same dates are known as for a conference. Conferences can be created by organizers. All reviewers who do not yet exist are entered in the system. Furthermore, reviewers can optionally be notified by e-mail that they are active as reviewers at a conference.

In order to use the system, authentication by means of a password is required; the user name is the e-mail address. All users of the system can request information about any conference.

Authors must register before they can submit a paper. For this purpose, a contact address is also required. Once registration has been successfully completed, a paper can be submitted. For a paper, the author must provide a title and a short description and upload a file containing the article. Each paper automatically receives a unique ID. If the author has made subsequent changes, they can upload their paper again until the specified deadline has passed. The author will be informed of any changes by e-mail. It is no longer possible to upload papers after the submission deadline.

As a paper can be written by several authors, it is possible for the author submitting the paper to specify any number of co-authors (also with name, e-mail and contact address).

Each reviewer can have up to three subject areas. The papers for evaluation are then assigned accordingly. After allocation, the reviewers are informed by e-mail which papers they are to review. There are also deadlines here. A review can also be entered directly into the system and consists of the following parts: a short summary, comments to the organizers, comments to the authors and an overall assessment.

At the end of the review period, the papers that are accepted for the conference are selected. The authors will be notified via the system whether their paper has been accepted or not and they will receive the reviews by e-mail as soon as the notification has been approved by an organizer. If a paper has been accepted, the authors have the opportunity to incorporate the reviewers' suggestions and upload a corrected version by the end of a deadline. This version will then be printed in the proceedings of the conference.