



Batchelorarbeit / BatchelorThesis

Methodical Support for the Development of Use Case based Requirement-Specifications

Background

Use Cases are a technique to specify functional requirements by describing different “services” the system under development should offer to possible users. More explicitly a use case specifies a set of actions the system undergoes with the help of external entities, which are called actors, to generate a certain use for one specific actor, which is called the primary actor for this use case. Although Use Cases are nowadays one of the most commonly used technique for the elicitation of functional requirements and a lot of research has been performed on use cases since their first introduction by Ivar Jacobson more than 20 years ago, there are still some mayor issues that form a hindrance to their overall acceptance in practice. The mayor problems arise form the fact that Use Cases are semi formal documents based on more or less structured textual descriptions of the behaviour the system performs. In this sense requirement analysts experience especially problems with correctness and consistency of use case descriptions as well with scoping issues. Especially tool support for Use Case specification and evolution is considered insufficient.

Mission

On the behalf of the insufficient tool support we have introduced ViPER-Nautilus a Use Case editing framework build upon current eclipse technologies. Nautilus is based on a „formal“ metamodel, that some structural information to Use Cases descriptions enabling automated consistency checks. Nautilus currently supports the creation and editing of Use Case descriptions as well as some inspection functionalities that should support correctness checking.

In this thesis a generic framework for use case creation-processes should be integrated in nautilus. This framework should address the different tasks that have to be performed during use case creation and give guidance for these tasks in the form of Cheat Sheets, Wizards and other Helpers.

The thesis thus consists of the following tasks:

1. Basic study of the theme based on the give literature
2. Elicitation and analysis of a process support for Use case specifications
3. Conceptual-Design of the Use case Process framework
4. Design and Implementation
5. Evaluation of the solution in practice
6. The results of the tasks 1-5 should be documented

Premises

- Basic experience in the field of Software-Development
- Basic experience in the field of object oriented Software-Construction
- Experience with Java
- Experience in the development of Eclipse-Plugins would be desirable

Literature

A. Cockburn, Writing Effective Use Cases. Addison-Wesley, 2000

K. Bittner and I. Spence, Use Case Modelling, Addison-Wesley, 2002

E. Clayberg D. Rubel, Eclipse: Building Commercial-Quality Plug-ins

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