MASTER'S PROJECT IN SOFTWARE ENGINEERING

Recording and reapplication of architecture-driven software development patterns

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Motivation

The need of automation in software engineering leads to more generic architectures, so called reference architectures, which cover whole domains of solutions. This reduces costs of custom solution development and promotes architectural knowledge of the developers, as the basic architectural guidelines do not change over projects.

Nevertheless, a generic and good architecture focuses on modularity, decoupling and standardized implementation of modules such that new development efforts arise. These efforts might be additional configurations like necessary for the Spring Framework or the development of architectural driven standardized object hierarchies in order to assure separation of concerns.

Topic

This project focuses on the design and implementation of a developer supporting tool, which minimizes development efforts for software artifacts. Predestined software artifacts are such that are developed quite often as e.g. architectural-driven component interfaces or other implementation guidelines (patterns). For that reason the developer supporting tool should have a recording mechanism as e.g. given in Excel with so called recorded macros. When the user activates the recording, all code changes should be tracked and saved when the recording is stopped. After that there might be a user interaction such that it is possible to generalize the contents recorded. Afterwards the recorded macro or template should be applicable to any similar context. The tool should be developed as an Eclipse Plug-In.

The project is carried out in cooperation with Capgemini (Offenbach/Frankfurt). The topic is suited for three to four students.

For different, but also related project topics do not hesitate to contact me.

Prerequisites

- Good programming knowledge (implementation language: Java)

- Eclipse development knowledge (recommended, but not mandatory)

Contact

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