Dipl.-Ing. Philipp Lengauer
Institut für Systemsoftware

Tel.: +43 732 2468-4362
Fax: +43 732 2468-7138
philipp.lengauer@jku.at

Bachelor's Thesis

An Eclipse Plugin to assign Source Code to Features and Generate a Feature-to-Code Mapping

Linz, 18. März 2014

Tracking memory usage is difficult because the purpose of an object, i.e., who created it and why, cannot be determined. However, objects are usually created within the context of a feature, whereas a feature is a piece of source code, i.e, a class, method, a single line, or a combination of those, implementing a specific application characteristic. To help developers find feature-related performance problems, the Feature-based Monitoring JVM is able to track memory, i.e., allocations and deallocations per feature, given a feature-to-code mapping

The goal of this thesis is to implement an Eclipse plugin that enables the programmer to map source code to a set of features. The plugin must provide functionality to edit the feature list, i.e, add and remove features. In addition, the user must be able to select individual source code lines in the editor and assign them to such a feature. To speed up feature assignment, the user can also assign entire packages, classes and methods in a single step using the already existing package explorer and class outline. He can then refine his assignment in the Java editor. All assigned lines must be visualized in the Java editor, e.g., by changing the background color or by special line markers in the side bar. The plugin must be able to save and restore the configured mapping into a file in addition to creating all files necessary for the Feature-based Monitoring Agent.

Supervisor: Dipl.-Ing. Philipp Lengauer, Verena Bitto, BSc
Student: David Pfeffer