Semester Project

Transformation of Java Card into Diet
Java Card

The Software Component Technology group at ETH Zurich and the Softwaretechnik Group at TU Kaiserslautern work on an interactive program prover called JIVE (Java Interactive Verification Environment). The goal is a program which allows one to formally prove that a Java program behaves as specified. The specification language of JIVE is JML which introduces concepts like pre- and postconditions of methods and class invariants.

The tool aims at the verification of Java Card programs which is a subset of Java and excludes, for instance, threads and floating point values. To reduce the amount of rules needed for the formal verification, some restrictions to the Java Card language were introduced and the resulting, simplified language was called Diet Java Card. It imposes restrictions to the programmer, which mainly are of syntactical nature.

The goal of this semester project is to find and implement transformations to translate a Java Card program into a Diet Java Card program with the restricted syntax. This allows programmers to again use the normal Java Card language without having to worry about the Diet Java Card restrictions.

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