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Smalltalk Interpreter in Java

Master thesis for Helmut Rohregger
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The goal of this thesis is to write a bytecode interpreter for the Squeak/Smalltalk programming language in Java. The interpreter should be able to load a Squeak image and execute some simple proof-of-concept and benchmark functionality.

Specific sub-goals are:

- Applying object-oriented design techniques when modeling the interpreter.
- Converting Squeak/Smalltalk bytecode into ASTs (Abstract Syntax Tree) and interpreting it.
- Development of a new image format, which consists of ASTs instead of bytecode.
- Writing an image converter for existing images.
- Creating ASTs from Squeak/Smalltalk source code.

Explicit non-goals are:

- Completeness with respect to the standard Squeak distribution (i.e., GUI support).
- Performance in comparison with existing Squeak run-time engines.

The work's progress should be discussed with the supervisor at least every 2 weeks. Please note the guidelines of the Institute for System Software when preparing the written thesis.

Supervisor: Dipl.-Ing. Lukas Stadler, Dr. Michael Haupt