



Compiler Visualization

Bachelor thesis for Konstantin Bina

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Compiler construction is a well-researched field, and every computer science student should have at least a good overview on the topic. Compilers are an interesting topic, but it is hard to show. Mostly one sees the command line and error output of a compiler. Sometimes even those are hidden in an IDE. That implies Compilers are not easy to understand by working with it the first time. This thesis should give an insight into the workings of a compiler, especially to computer science beginners and interested amateurs, so that it's easier to understand the compiler operations and imagine the single steps.

The tool must offer the following features:

- Configurable with grammars, such that depends on the expertise of the audience; one can choose a fitting grammar.
- Visualization of the grammar, with current parse state.
- Visualization of parse tree.
- Game-like interface to control the compiler:
 - Scanning: The user should be able to take part in token recognition.
 - Parsing: The user should be able to drop tokens into the parser to drive the parsing.

Platform: Java or C# (eventually on top of a rich client platform like NetBeans or Eclipse).

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