

CS 583 Final Project Report

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1 Overview

The Variational Parser or whatever it's called now is a tool supporting C preprocessor-like language extensions. The intended use case for this parser is to support an Atom editor plugin enabling users to inspect and modify documents containing the equivalent to `#ifdefs` by specifying whether dimensions are defined, and if so, whether to choose between a "left" or "right" alternative.

What we're delivering enables users to do two basic actions:

1. Parse a document containing our variational syntax into an abstract syntax tree with line and column numbers that support syntax highlighting.
2. Consume an AST and a set of user selections, producing an AST with the specified dimensions reduced to one of their branches. (the "view" function).

Some of the work done by this parser is already done by the C preprocessor, and the tool bears a vague resemblance to some commonly-used "language service" programs that support editor plugins that maximize the amount of code that can be shared between plugin implementations for various different editors.

2 Types and functions used