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This document describes how to extend ESC/Java2. It describes the high-level architecture of the system and how to extend it through a series of case studies.

This is edition \$Revision\$.

This document is a work in progress. Suggestions and input are always welcome.

Extending ESC/Java2

Edition \$Revision\$, November 2004

This document describes how to extend ESC/Java2 version 2.0a8 and later.

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This document describes how to extend ESC/Java2. It describes the high-level architecture of the system and how to extend it through a series of case studies.

1 Introduction

This document describes how to extend ESC/Java2. It describes the high-level architecture of the system and how to extend it through a series of case studies.

The case studies discussed were chosen because they: (a) focused on each independent aspects of the architecture, (b) were relatively small and self-contained examples, and (c) they were additions that we made to the original SRC ESC/Java system, thus writing them up in this manner was straightforward.

2 ESC/Java2 Architecture

3 The ESC/Java2 AST

4 Extending the ESC/Java2 Lexer

5 Extending the ESC/Java2 Parser

5.1 The Java Parser

5.2 The Java Modeling Language Parser

6 Extending the ESC/Java2 Type Checker

7 Extending the VC Generation Calculus

7.1 The ESC/Java2 Weakest Precondition Calculus

8 Extending the ESC/Java2 Logics

9 The Theorem Prover Interface

10 Testing Extensions

Appendix A Copying

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