Specification for Visored

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November 15, 2024

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1 Introduction

1.1 Purpose

This document specifies the syntax and semantics of the Formal Mathematics Programming Language (FMPL), a language designed for automated theorem proving and mathematical formalization.

2 Related Work

Naproche In Lon et al. [2021], the authors describe the syntax and semantics of the Naproche proof assistant, which is a natural language proof assistant based on the Isabelle theorem prover.

3 Goals

- Provide a rigorous foundation for expressing mathematical concepts
- Enable automated reasoning and proof verification
- Bridge the gap between informal and formal mathematics
- Support integration with existing theorem provers

4 Syntax

The syntax of visored is a subset of LaTeX. In fact, visored has no syntactic stage of its own. It's based on the syntactic output of my personal LaTeX parser.

4.1 Lexical Elements

4.2 Grammar

5 Semantics

5.1 Type System

5.2 Operational Semantics

6 Standard Library

7 Examples and Use Cases

References

Adrian De Lon, Peter Koepke, Anton Lorenzen, Adrian Marti, Marcel Schütz, and Markus Wenzel. The isabelle/naproche natural language proof assistant. In *CADE*, 2021. URL `https://api.semanticscholar.org/CorpusID:235801039`.