

Twelf is a research project concerned with the design, implementation, and application of logical frameworks funded by the National Science Foundation under grants CCR-96a9584 and CCR-9988a8a Meta-Logical Frameworks, CCR-0a06aaa Efficient Logical Frameworks Principal Investigator: Frank Pfenning and by DARPA under the contract number Fa96a68-95-C-0050 The Fox Project: Advanced Languages for Systems Software Principal Investigators: Robert Harper, Peter Lee, and Frank Pfenning . The Twelf implementation comprises • the LF logical framework, including type reconstruction; • the Elf constraint logic programming language; • an inductive meta-theorem prover for LF very preliminary ; • and an Emacs interface. The principal authors of Twelf are • Frank Pfenning, and • Carsten Schürmann with major contributions by • Brigitte Pientka, • Roberto Virga, and • Kevin Watkins Twelf provides a uniform meta-language for specifying, implementing, and proving properties of programming languages and logics. Example suites include Cartesian Closed Categories and lambda-calculus, the Church-Rosser theorem for the untyped lambda-calculus, Mini-ML including type preservation and compilation, cut elimination, theory of logic programming, and Hilbert's deduction theorem. • • •