

- 1 Efficiency/stability of the kernel, in particular:
  - exponential complexity of negative comparisons
  - dependency (sometimes non-linear) of the complexity of unification on the context size and, since 8.4, on the current proof size.
  - algorithmic instability due to side effects of lazy evaluation, in particular via constants cache.
- 2 Incompleteness and inconsistency of control of declarations scope (better: Isabelle's Locale). Variable/Context declarations should be treated as implicit arguments, rather than axioms (no cooking).
- 3 Extensibility of grammars. Even keeping Camlp5:
  - "only format" annotation specifying a printing rule
  - non-terminals in the grammar, to factor rules
  - API allowing plug-ins to display more than integers and strings
- 4 More declarative tactic language, like Mtac/cybele
- 5 Up-to-date and coherent description of the logics of the system and its implementation.