Language Servers and Proof Assistants (Discussion)

Sebastian Ullrich
sebasti@nullri.ch
Germany

Abstract

The Language Server Protocol (LSP) has greatly simplified integration of languages into a variety of editors, enabling language implementers to provide IDE features that otherwise would have been too time-consuming to implement for smaller projects. However, the protocol is clearly focused on use cases prevalent in mainstream programming languages; it lacks support for the kind of interaction between user and assistant that gives interactive proof assistants their name and at the same time can request metadata in a way that proof assistant implementers may find hard to provide given differences in semantics and processing time compared to more standard compilers. Nevertheless, many proof assistants are moving away from established, custom integrations in various editors towards the LSP-powered editor VS Code in the name of making their system more accessible to new users. The goal of this discussion is to exchange experience, knowledge, and future plans regarding this transition:

- Did you move or are you considering moving your system to the LSP? What benefits did you experience or do you expect?
- What are downsides and limitations you have encountered? Have they led to different interaction with the system compared to previous integrations?
- What is the way forward for features not supported in the LSP? Is there a benefit in standardizing protocol extensions across proof assistants?

While the proposal author is most familiar with the topic in the context of proof assistants, discussion contributions about other systems facing similar issues are also welcome.

ACM Reference Format:
Sebastian Ullrich. 2023. Language Servers and Proof Assistants (Discussion). In *Proceedings of Second Workshop on the Implementation of Type Systems (WITS'23).* ACM, New York, NY, USA, 1 page. https://doi.org/XXXXXXX.XXXXXXX

WITS'23, 2023, Braga, Portugal

ACM ISBN 978-x-xxxx-xxxx-x/YY/MM…$15.00
https://doi.org/XXXXXXX.XXXXXXX