Institute of Software Engineering and Compiler Construction

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Collaborative CHR on the Web – SWISH

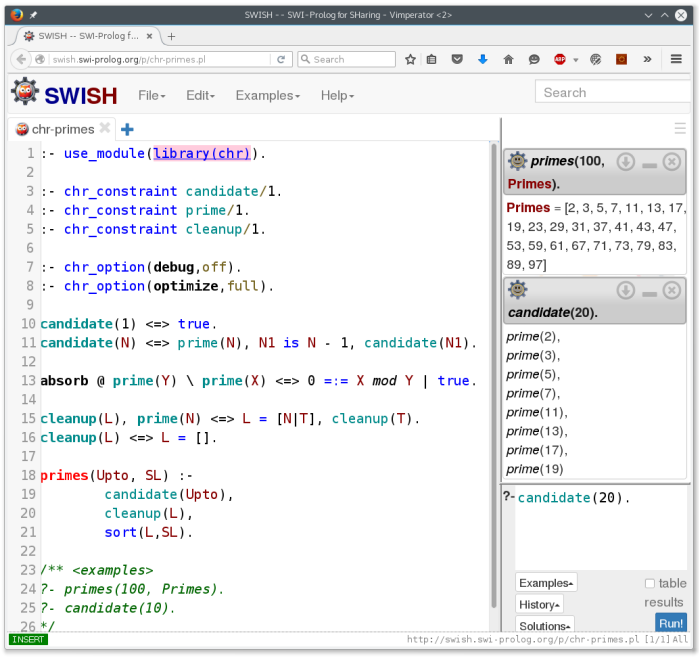
(Project)

Introduction

SWISH [1] is a web-based application that provides easy access to SWI Prolog for the browser. It is used for teaching Prolog, e.g. in interactive tutorials like “Learn Prolog Now!” [2]. The site is popular and can also be used to share example code and collaboration comparable to Google Docs.

Therefore, SWISH offers a web interface where users can interactively edit source code and execute it. The execution is handled by a server that receives both the source code and the query, executes it and sends the result back to the web interface.

Although Constraint Handling Rules (CHR) is a popular and important extension of SWI Prolog, its support in SWISH is limited. Current approaches to make CHR accessible in the web are either outdated (WebCHR [3]) or use another host-language that Prolog (CHR.js [4]). Therefore, this project aims at improving CHR support in SWISH to make it accessible at one of the most important online resources in the Prolog world.



Goals

The goal of this project is to extend the current SWISH implementation by a complete support of CHR. The following sub-problems have to be solved:

- Making as many CHR examples executable as possible.
- SWISH uses sandboxing to prevent users from accessing certain resources of the server running the program. However, at the moment certain parts of the CHR compilation and execution are blocked. This could lead to errors when using complex CHR programs.

  The sandbox handling of Prolog and its CHR implementation should be adapted such that all CHR programs can be compiled and executed by SWISH.
- Tracer should be adapted to support CHR.

Prerequisites

- Programming skills in Prolog and CHR
- Knowledge of JavaScript is helpful.
- Willingness to understand the internals of the SWISH implementation and practical aspects of Prolog/CHR programming

References

1. http://swish.swi-prolog.org/
2. http://www.learnprolognow.org/
3. http://chr.informatik.uni-ulm.de/~webchr/
4. http://chrjs.net/

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