Vrije Universiteit Brussel

Proposal bachelor thesis

Title: Structure Editing for Scheme

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Includes preparation course: Yes / ~~No~~ (Select the correct option)

Context

When the first workstations with graphical user interfaces were introduced in the early 70ies, LISP alongside Smalltalk became an immediate success as prime languages supported by advanced IDE's featuring structured editing. Zetalisp and Interlisp ran on various Lisp machines, while Smalltalk ran on Xerox workstations. Today we have mostly reverted to text-oriented editors (such as Emacs for Common Lisp).
With the advent of tablets, we have seen a re-emergence of structure editors – essentially because text editing is a bad match with tablets . On the other hand, interactivity and performance of tablets invite a more graphical flavor of code editing.
It is therefore not surprising that structure editing apps have started to appear on both IOS and Android. Specifically for Scheme, several are available, with various levels of usability.

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The first objective of this thesis is to evaluate the state of the art in structure editing for Scheme, both on mobile and fixed hardware. The second objective is to mine the literature on structure editing , including publications describing the specifics of successful past and present implementations in the Lisp community. Third is an audit of current Scheme structure editors for IOS and Android. Finally, these findings should be distilled in a prototype Scheme structure editor core that should be instantiated for at least one mobile platform.

Hardware will be provided, as well as an s-expression evaluator for Scheme.

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