

Hazel Assistant Calculus WIP

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Abstract

The hazelnut assistant calculus provides an extensible framework for type- and value-directed completion and refactoring support in a structured editing context.

CCS Concepts: • Software and its engineering → General programming languages.

Keywords: live programming, code completion, refactoring, GUIs

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wazzzzzaaaaaaaaaaaaaaaaaaaaaaap

1 Assistant Calculus

blah blah blah types

References

Suggest Hole Synthetic

$\text{Intros}(\tau)s$

$\Gamma \vdash > \langle \rangle < \Leftarrow \tau \hookrightarrow A_{\text{intros}} \cup A_{\text{elims}}$

ELam

$\Phi; \Gamma, x : \tau_{\text{in}} \vdash \hat{e} \rightsquigarrow e : \tau_{\text{out}}$

$\Phi; \Gamma \vdash \lambda x. \hat{e} \rightsquigarrow \lambda x. e : \tau_{\text{in}} \rightarrow \tau_{\text{out}}$

EApLivelit

$\text{livelit } \$a \text{ at } \tau_{\text{expand}} \{ \tau_{\text{model}}; d_{\text{expand}} \} \in \Phi$

$\vdash d_{\text{model}} : \tau_{\text{model}}$

$d_{\text{expand}} d_{\text{model}} \Downarrow d_{\text{encoded}} \quad d_{\text{encoded}} \Uparrow e_{\text{pexpansion}}$

$\vdash e_{\text{pexpansion}} : \{ \tau_i \}_{i < n} \rightarrow \tau_{\text{expand}}$

$\{ \Phi; \Gamma \vdash \hat{e}_i \rightsquigarrow e_i : \tau_i \}_{i < n}$

$\Phi; \Gamma \vdash \$a \langle d_{\text{model}}; \{ \hat{e}_i : \tau_i \}_{i < n} \rangle^u \rightsquigarrow e_{\text{pexpansion}} \{ e_i \}_{i < n} : \tau_{\text{expand}}$

Figure 1. Expansion

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