

EKind^{0,22}

EventsWithKinds

$\equiv_{\text{def}} E:\text{Type}$
 $\times \text{EqDecider}(E)$
 $\times \text{Top}$
 $\times \text{pred?}:(E \rightarrow (E + \text{Unit}))$
 $\times \text{info}:(E \rightarrow (\text{Id} \times \text{Id} + (\text{IdLnk} \times E) \times \text{Id}))$
 $\times \text{EOrderAxioms}(E; \text{pred?}; \text{info})$
 $\times T:(\text{Id} \rightarrow \text{Id} \rightarrow \text{Type})$
 $\times \text{when}:(x:\text{Id} \rightarrow e:E \rightarrow T(\text{loc}(e), x))$
 $\times \text{after}:(x:\text{Id} \rightarrow e:E \rightarrow T(\text{loc}(e), x))$
 $\times (\forall e:E. \neg \text{first}(e) \Rightarrow (\forall x:\text{Id}. \text{when}(x, e) = \text{after}(x, \text{pred}(e))))$
 $\times \text{Top}$

clarification:

EKind{i:l}

$\equiv_{\text{def}} E:\text{Type}_i$
 $\times \text{EqDecider}(E)$
 $\times \text{Top}$
 $\times \text{pred?}:(E \rightarrow (E + \text{Unit}))$
 $\times \text{info}:(E \rightarrow (\text{Id} \times \text{Id} + (\text{IdLnk} \times E) \times \text{Id}))$
 $\times \text{EOrderAxioms}\{i\}(E;$
 $\quad \text{pred?};$
 $\quad \text{info})$
 $\times T:(\text{Id} \rightarrow \text{Id} \rightarrow \text{Type}_i)$
 $\times \text{when}:(x:\text{Id} \rightarrow e:E \rightarrow T(\text{loc}(\text{info}; e), x))$
 $\times \text{after}:(x:\text{Id} \rightarrow e:E \rightarrow T(\text{loc}(\text{info}; e), x))$
 $\times (\forall e:E.$
 $\quad \neg \text{first}(\text{pred?}; e) \Rightarrow (\forall x:\text{Id}. \text{when}(x, e) = \text{after}(x, \text{pred}(\text{pred?}; e)) \in T(\text{loc}(\text{info}; e), x))$
 $\times \text{Top}$