Definition 1. *Generic Path-sensitive Call-back Model* $GPC = (N, E, C)$ (1)

N N $N =$ $N_l \cup$ N_n N_l $N_l =$ $N_{lfc} \cup$ N_{aux} N_{lfc} N_{aux} N_{aux} N_{aux} *Active-Start* *Active-End* *Terminal* $N_{aux} =$ $\{N_{as}, N_{ae}, N_{tm}\}$ N_n $N_n =$ $N_{sys} \cup$ N_{gui} N_{sys} N_{gui} *GUI* x N^x N_{st} N^{re} E E $E =$ $E_l \cup$ $E_r \cup$ E_j $E_l =$ $N_l \times$ N_l $E_r =$ $(N_l \times$ $N_n) \cup$ $(N_n \times$ $N_l) \cup$ $(N_n \times$ $N_n)$ $E_j =$ $E_{j-a} \cup$ $E_{j-s} =$ $(N^A_{tm} \times$ $N^B_{st}) \cup$ $(N^B_{tm} \times$ $N^A_{re})$ E_{j-a} E_{j-s} ^{A} ^{B} C $C =$ $\{(r, f, e) | r \in$ $Ivr, f \in$ $\Lambda, e \in$ $Ive\}$ Ivr Ive Λ $\forall f \in$ $\Lambda, f :$ $Val \rightarrow$ $\{True, False\}$ Val

Definition 2. *Register Abstraction*