

File created: 23-Aug-2022 20:43:35 {DSK}<home>larry>medley>sources>SEdit-TOPLEVEL.;3

changes to: (IL:FNS MARKASCHANGEDFN)

previous date: 8-Dec-2021 14:01:58 {DSK}<home>larry>medley>sources>SEdit-TOPLEVEL.;1

Read Table: XCL

Package: SEDIT

Format: XCCS

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```
(IL:RPAQQ IL:SEdit-TOPLEVELCOMS
  ((IL:PROP IL:FILETYPE IL:SEdit-TOPLEVEL)
   (IL:PROP IL:MAKEFILE-ENVIRONMENT IL:SEdit-TOPLEVEL)
   (IL:LOCALVARS . T)
   (IL:DECLARE\ : IL:DONTCOPY IL:DOEVAL@COMPILE (IL:FILES IL:SEdit-DECLS))
   (IL:INITVARS CONTEXTS REGIONS)
   (IL:VARS (IL:*DISPLAY-EDITOR* 'SEdit))
   (IL:FNS SEDIT RESET GET-WINDOW-REGION SAVE-WINDOW-REGION GET-WINDOW GET-PROP PUT-PROP)
   (IL:FNS GET-CONTEXT DISINTEGRATE-CONTEXT AWAKE-COMMAND-PROCESS AWAKE-ME MARKASCHANGEDFN
    NEW-FUNCTION-BODY)
   (IL:FUNCTIONS QUERY-THROW-AWAY-CHANGES SET-OPTIONS SET-PROPS START-PROCESS)
   (IL:COMS
    ;; THESE CAN ALL BE NUKED WITH THE NEW EDIT INTERFACE AND A DETACHED TTY/EDITOR (WOZ 1/25/91)
    (IL:PROP (IL:|Definition-for-EDITL| IL:|Definition-for-EDITE| IL:|Definition-for-EDITDATE|)
     SEDIT)
    (IL:FNS SEDIT SEDITL FN-CHANGED PROP-CHANGED PROPLST-CHANGED VAR-CHANGED ALIST-COMPLETION
     COMPLETION PROPS-COMPLETION TTYFN LOCATE-NODE-FROM-EDITCHAIN)
    ;; Mess around with the tty editor's TTY: command by defining a hook and then making TTY: a macro which calls the hook.
    (IL:FUNCTIONS SMART-TTYFN)
    (IL:P (PUSHNEW ' (IL:TTY\ : NIL (IL:E (SMART-TTYFN)
     T)))
     IL:EDITMACROS :TEST #' IL:EQUAL)))
   (IL:FNS PRETTY-PRINT MAP-FONT)
   ;; these guys allow you to print and read structures with broken atoms and gaps. just a convenience for the loser who forgets to get them
   ;; out of his code.
   (IL:FUNCTIONS MAKE-BROKEN-ATOM PRINT-BROKEN-ATOM MAKE-GAP PRINT-GAP)
   (IL:P (IL:DEFPRINT 'BROKEN-ATOM 'PRINT-BROKEN-ATOM)
    (IL:DEFPRINT 'GAP 'PRINT-GAP))))
  (IL:PUTPROPS IL:SEdit-TOPLEVEL IL:FILETYPE :COMPILE-FILE)
  (IL:PUTPROPS IL:SEdit-TOPLEVEL IL:MAKEFILE-ENVIRONMENT (:READTABLE "XCL" :PACKAGE (DEFPACKAGE "SEdit"
    (:USE "LISP" "XCL"))))
  (IL:DECLARE\ : IL:DOEVAL@COMPILE IL:DONTCOPY
  (IL:LOCALVARS . T)
  )
  (IL:DECLARE\ : IL:DONTCOPY IL:DOEVAL@COMPILE
  (IL:FILESLOAD IL:SEdit-DECLS)
  )
  (IL:RPAQ? CONTEXTS NIL)
  (IL:RPAQ? REGIONS NIL)
  (IL:RPAQQ IL:*DISPLAY-EDITOR* SEDIT)
  (IL:DEFINEQ
  (SEdit
  (IL:LAMBDA (STRUCTURE PROPS OPTIONS) ; Edited 25-Jan-91 13:51 by woz
  (OR STRUCTURE (IL:SETQ STRUCTURE BASIC-GAP))
  (LET* ((NAME (IL:LISTGET PROPS :NAME))
  (TYPE (OR (IL:LISTGET PROPS :TYPE)
  :EXPRESSION))
  (CONTEXT (GET-CONTEXT STRUCTURE NAME TYPE))
  (WINDOW (IL:|fetch| DISPLAY-WINDOW IL:|of| CONTEXT)))
  (SET-PROPS CONTEXT PROPS)
  (SET-OPTIONS CONTEXT OPTIONS)
  (COND
  ((NULL WINDOW)
  ;; this is a new context, needs to be setup from scratch
  (START-PROCESS CONTEXT)
  CONTEXT)
  ((AND (IL:OPENWP WINDOW)
  (IL:PROCESSP (IL:WINDOWPROP WINDOW ' IL:PROCESS)))))
```

```

;; open and active
(IL:TOTOPW WINDOW)
(WHEN (OR (NOT (EQ T (IL:|fetch| (EDIT-CONTEXT CHANGED-STRUCTURE?) IL:|of| CONTEXT)))
          (QUERY-THROW-AWAY-CHANGES NAME OPTIONS))
      ;; there are no changes on this edit, or user said throw away changes, so we will restart this edit.
      (IL:|replace| CHANGED-STRUCTURE? IL:|of| CONTEXT IL:|with| STRUCTURE)
      (IL:RESTART.PROCESS (IL:WINDOWPROP WINDOW 'IL:PROCESS)
                          CONTEXT))
((IL:OPENWP (IL:WINDOWPROP WINDOW 'IL:ICONWINDOW))
 ;; shrunk
(IL:|replace| CHANGED-STRUCTURE? IL:|of| CONTEXT IL:|with| STRUCTURE)
(IL:EXPANDW WINDOW)
CONTEXT)
(T
 ;; found a dead context. get rid of it and try again.
(DISINTEGRATE-CONTEXT CONTEXT)
(SEdit STRUCTURE PROPS OPTIONS))))

```

(RESET

```

(IL:LAMBDA NIL ; Edited 10-Jul-87 08:35 by DCB
(COND
 (CONTEXTS (IL:ERROR "Can't reset SEdit while there are open SEdit windows"))
 (T (CREATE-ENVIRONMENTS)
     (RESET-FORMATS)
     T))))

```

(GET-WINDOW-REGION

```

(IL:LAMBDA (CONTEXT REASON NAME TYPE)
 ;; Edited 8-Dec-2021 14:01 by rmk: The :REGION property gives the user direct control
 ; Edited 1-Dec-2021 22:51 by rmk:
 ; Edited 19-Nov-87 10:18 by DCB

```

;;; called to get a region for this sedit window. should return the region for the sedit including the prompt window. context is being built and needs a  
 ;;; window. the context will have at least the name (IconTitle) and type (EditType) of the object being edited, and can be used as desired to map  
 ;;; between contexts and windows. If reason is :CREATE, then this function must return a region. If :EXPAND, then this algorithm returns a region from  
 ;;; the stack only if SEDIT.KEEP.WINDOW.REGION is nil, otherwise it returns NIL, telling the window system not to reshape on expansion.

```

(OR (GET-PROP CONTEXT :REGION)
 (WHEN (OR (EQ REASON :CREATE)
           (NOT KEEP-WINDOW-REGION))
      (OR (IL:POP REGIONS)
          (PROGN (IL:|printout| IL:PROMPTWINDOW T "Select region for SEdit window.")
                 (IL:GETREGION 30 20))))))

```

(SAVE-WINDOW-REGION

```

(IL:LAMBDA (CONTEXT REASON NAME TYPE REGION) ; Edited 1-Dec-2021 21:13 by rmk:
 ; Edited 23-Nov-87 17:46 by DCB

```

;;; Release this sedit windows region to be used again. If we're shrinking, KEEP-WINDOW-REGION determines whether to release the region or not. If  
 ;;; an icon is being closed, don't release the region because it was handled appropriately when the window as shrunk. remember, we're maintaining  
 ;;; regions including the prompt window height, so use WINDOWREGION to get the whole region.

```

(WHEN (OR (EQ REASON :CLOSE)
          (AND (EQ REASON :SHRINK)
               (NOT KEEP-WINDOW-REGION)))
      (UNLESS (GET-PROP CONTEXT :DONT-KEEP-WINDOW-REGION)
              (IL:|push| REGIONS (OR REGION (IL:WINDOWREGION (IL:|fetch| DISPLAY-WINDOW IL:|of| CONTEXT)))))))

```

(GET-WINDOW

```

(IL:LAMBDA (CONTEXT) ; Edited 25-Nov-2021 23:13 by rmk:
 ;; Returns the current window of CONTEXT, for clients that don't have SEDIT declarations
 (IL:|fetch| DISPLAY-WINDOW IL:|of| CONTEXT))

```

(GET-PROP

```

(IL:LAMBDA (CONTEXT PROP) ; Edited 1-Dec-2021 21:40 by rmk:
 (WHEN (IL:WINDOWP CONTEXT)
      (SETQ CONTEXT (IL:WINDOWPROP CONTEXT 'EDIT-CONTEXT)))
 (IL:LISTGET (IL:FETCH (EDIT-CONTEXT PROPS) IL:OF CONTEXT)
              PROP))

```

(PUT-PROP

```

(IL:LAMBDA (CONTEXT PROP VALUE) ; Edited 1-Dec-2021 21:44 by rmk:
 (WHEN (IL:WINDOWP CONTEXT)
      (SETQ CONTEXT (IL:WINDOWPROP CONTEXT 'EDIT-CONTEXT)))
 (LET ((PROPS (IL:FETCH (EDIT-CONTEXT PROPS) IL:OF CONTEXT)))
      (IF PROPS
          (IL:LISTPUT PROPS PROP VALUE)

```

(IL:REPLACE (EDIT-CONTEXT PROPS) IL:OF CONTEXT IL:WITH (LIST PROP VALUE)))  
VALUE)))

)

(IL:DEFINEQ

(GET-CONTEXT

(IL:LAMBDA (STRUCTURE NAME TYPE SEARCH-ONLY?) ; Edited 5-Dec-90 13:00 by woz

;;; we've been asked to get the edit context for a new edit. if a context matching this description (same name and same type, or EQ structure) already exists, we'll return it rather than creating a new one. Also, if SEARCH-ONLY? is true then don't create a new one, just return NIL if not found.

(IL:|bind| WINDOW IL:|for| CONTEXT IL:|in| CONTEXTS  
IL:|when| (OR (AND NAME (EQUAL NAME (IL:|fetch| ICON-TITLE IL:|of| CONTEXT))  
(EQ TYPE (IL:|fetch| EDIT-TYPE IL:|of| CONTEXT)))  
(AND STRUCTURE (IL:|type?) EDIT-NODE (IL:|fetch| ROOT IL:|of| CONTEXT))  
(EQ STRUCTURE (IL:|fetch| STRUCTURE IL:|of| (SUBNODE 1 (IL:|fetch| ROOT IL:|of| CONTEXT))))))

IL:|do|

;; we found a context that matches, return it.

(RETURN CONTEXT)

IL:|finally|

;; this is a new editing task, so make an appropriate context and get it started

(IF SEARCH-ONLY?

(RETURN NIL)

(LET ((CONTEXT (IL:|create| EDIT-CONTEXT

COMPLETION-EVENT IL:\_ (IL:CREATE.EVENT (IL:CONCAT EDITOR-NAME NAME)

ROOT IL:\_ STRUCTURE

ICON-TITLE IL:\_ NAME

EDIT-TYPE IL:\_ TYPE)))

(PUSH CONTEXT CONTEXTS)

(RETURN CONTEXT))))))

(DISINTEGRATE-CONTEXT

(IL:LAMBDA (CONTEXT) ; Edited 5-Dec-90 17:45 by woz

;;; terminate this edit context. we mark it as dead, remove it from the active edits list, smash the connections between the context and the window

(WHEN CONTEXT  
(IL:NOTIFY.EVENT (IL:|fetch| COMPLETION-EVENT IL:|of| CONTEXT))  
(IL:|replace| CONTEXT-LOCK IL:|of| CONTEXT IL:|with| 'DEAD)  
(IL:WINDOWPROP (IL:|fetch| DISPLAY-WINDOW IL:|of| CONTEXT)  
'EDIT-CONTEXT NIL)  
(IL:|replace| DISPLAY-WINDOW IL:|of| CONTEXT IL:|with| NIL)  
(IL:SETQ CONTEXTS (IL:DREMOVE CONTEXT CONTEXTS))))))

(AWAKE-COMMAND-PROCESS

(IL:LAMBDA (CONTEXT COMMAND) ; Edited 5-Dec-90 16:52 by woz

;; if this context has a process associated with it, and the process is currently stuck waiting for input, unstick it so that it can look around and  
;; (presumably) notice some important change in its environment. This is also called when someone in another process, such as a command menu  
;; or a window menu operation, wants to tell the command process to execute the command. Note that under a few circumstances this function will  
;; be called by a running command in the sedit process. For example, the complete-and-close command calls il:closew which calls sedit's closefn  
;; which tries to wake up the sedit to let it know the window was closed. In this case, awake-command-process will result in a no-op because sedit  
;; has a command running, and therefore cannot be woken up. COMMAND is a command form which will be used as the value returned from  
;; GETKEY in SEDIT1. COMMAND should be of the form (<fn> <normalize?> <extra args>), so that <fn> will be applied to the context, the  
;; charcode invoking the command (NIL in this case), and the extra args. After the command runs the window will scroll to normalize the caret if  
;; <normalize?> is T. If COMMAND is NIL then the SEdit will just update the window.

(LET ((PROCESS (IL:WINDOWPROP (IL:|fetch| DISPLAY-WINDOW IL:|of| CONTEXT)  
'IL:PROCESS)))  
(WHEN (IL:PROCESSP PROCESS)  
(IL:PROCESS.APPLY PROCESS 'AWAKE-ME (LIST COMMAND))))))

(AWAKE-ME

(IL:LAMBDA (RESULT) ; Edited 7-Jul-87 12:59 by DCB

;; this rather ugly little function checks to see if it's being called under getkey (presumably by PROCESS.APPLY from awake.command.process)  
;; and if so forces the getkey to return result

(LET ((STACK-FRAME (IL:STKPOS 'GETKEY)))  
(WHEN STACK-FRAME (IL:RETFROM STACK-FRAME RESULT T))))))

(MARKASCHANGEDFN

(IL:LAMBDA (NAME TYPE REASON) ; Edited 23-Aug-2022 20:41 by lmm  
; Edited 8-Dec-2021 11:49 by rmk  
; Edited 2-Dec-2021 22:57 by larry  
; Edited 3-Apr-91 15:42 by jds

;;; When a managed object is changed, we must check if we have an open edit on it. If so, calling SEdit again, with the fresh definition, will force the  
;;; update. This is fairly tricky, though. Markaschanged is called as a result of editing a managed definition, so this markaschangedfn could be running  
;;; in the sedit process under the completion-fn half way through completion. IDEALLY in this case we could say "i know it changed, i just changed it!"  
;;; and ignore this call. BUT FOR NOW (1/14/91) since the manager can change the definition on completion (editdates, for one), we have to notify  
;;; SEdit. Since calling editdef will restart the sedit process, the completion-fn will not finish, so do the verify-structure here.



```

: SELECT-INSTANCE)
1)))
(IL:REPLACE (EDIT-CONTEXT PROPS) IL:OF CONTEXT IL:WITH PROPS))

```

```

(DEFUN START-PROCESS (CONTEXT)

```

;; the context is ready. start the sedit process. the rest of the initialization will happen in the sedit process, and the completion-event will be notified (by  
;; SEDIT1) when the sedit is initialized.

```

(LET ((NAME (IL:FETCH (EDIT-CONTEXT ICON-TITLE) IL:OF CONTEXT))
      (EVENT (IL:fetch (EDIT-CONTEXT COMPLETION-EVENT) IL:of CONTEXT)))
      (IL:ADD.PROCESS (LIST 'SEDIT1 (IL:KWOTE CONTEXT)
                          'IL:NAME
                          (IF NAME
                            (IL:CONCAT EDITOR-NAME " " NAME)
                            EDITOR-NAME))
                    (IL:until (EQ EVENT (IL:AWAIT.EVENT EVENT)))))

```

;; THESE CAN ALL BE NUKED WITH THE NEW EDIT INTERFACE AND A DETACHED TTY/EDITOR (WOZ 1/25/91)

```

(IL:PUTPROPS SEDIT IL:|Definition-for-EDITL| SEDITL)
(IL:PUTPROPS SEDIT IL:|Definition-for-EDITE| SEDITE)
(IL:PUTPROPS SEDIT IL:|Definition-for-EDITDATE| IL:TTY/EDITDATE)
(IL:DEFINEQ

```

**SEDITE**

```

(IL:LAMBDA (EXPR COMS ATOM TYPE IFCHANGEDFN OPTIONS) ; Edited 10-Jul-91 19:04 by jds

```

;; Convert call to EDITE into sedit format (structure props options). The completion-fn is determined based on TYPE, since the file manager isn't very  
;; consistent about IL:PROPLST and IL:ALIST. Since EDITE is supposed to wait for completion, create a completion event which is notified by the  
;; completion-fn. Also, if the top cons is changed, try to smash the completed structure into EXPR to provide eqness.

;; IDEALLY: this whole mess wouldn't exist- if il:putdef could handle il:proplst, etc, then completion could simply call putdef, not special case as it does  
;; here.

```

(LET* ((EVENT (IL:CREATE.EVENT "SEDITE Completion"))
      (NEW-EXPR)
      (COMPLETION-FN (OR (AND IL:FILEPKGFLG
                             (IL:SELECTQ TYPE
                               (IL:PROPLST (LET ((OLD-PROPS (IL:APPEND (IL:GETPROPLIST ATOM)))
                                         #'(LAMBDA (CONTEXT STRUCTURE CHANGED?)
                                           (FUNCALL #'PROPS-COMPLETION CONTEXT STRUCTURE
                                             CHANGED? ATOM IFCHANGEDFN OLD-PROPS)
                                           (SETQ NEW-EXPR STRUCTURE)
                                           (IL:NOTIFY.EVENT EVENT))))
                               (IL:VARS (WHEN (IL:EQMEMB 'IL:ALIST (IL:GETPROP ATOM 'IL:VARTYPE))
                                         (LET ((OLD-VAL (IL:MAPCAR (IL:FUNCTION CAR)
                                                                    (IL:EVALV ATOM)))
                                               #'(LAMBDA (CONTEXT STRUCTURE CHANGED?)
                                                 (FUNCALL #'ALIST-COMPLETION CONTEXT
                                                   STRUCTURE CHANGED? ATOM IFCHANGEDFN
                                                   OLD-VAL)
                                                 (SETQ NEW-EXPR STRUCTURE)
                                                 (IL:NOTIFY.EVENT EVENT))))
                                         NIL))
                               (AND ATOM TYPE #'(LAMBDA (CONTEXT STRUCTURE CHANGED?)
                                         (FUNCALL #'COMPLETION CONTEXT STRUCTURE CHANGED? ATOM TYPE
                                           IFCHANGEDFN)
                                         (SETQ NEW-EXPR STRUCTURE)
                                         (IL:NOTIFY.EVENT EVENT))))
                               #'(LAMBDA (CONTEXT STRUCTURE CHANGED?)
                                         (SETQ NEW-EXPR STRUCTURE)
                                         (IL:NOTIFY.EVENT EVENT))))
      (ROOT-CHANGED-FN (IL:SELECTQ TYPE
                        (IL:PROPLST (LIST (IL:FUNCTION PROPLST-CHANGED)
                                         ATOM)
                        (IL:VARS (LIST (IL:FUNCTION VAR-CHANGED)
                                         ATOM)
                        (IL:FNS (LIST (IL:FUNCTION FN-CHANGED)
                                         ATOM)
                        NIL)))
      (COND
        (COMS (IL:TTY/EDITE EXPR COMS ATOM TYPE IFCHANGEDFN OPTIONS))
        (T (WHEN (AND IL:FILEPKGFLG (OR IL:CLISPARRAY (PROGN (IL:CLISPTRAN (CONS)
                                                                    (CONS)
                                                                    IL:CLISPARRAY))))
              (IL:SELECTQ TYPE
                (IL:PROPLST (IL:|for| X IL:|in| (IL:GETPROPLIST ATOM) IL:|unless| (OR (IL:NLISTP X)
                                                                    (IL:GETHASH X
                                                                    IL:CLISPARRAY))
                IL:|do| (IL:PUTHASH X (CONS (CAR X)
                                                                    (CDR X))
                IL:CLISPARRAY)))

```



```

(CAR OLD-VALUE))
(EQ (CDR X)
(CDR OLD-VALUE))))))
IL:DO (IL:PUTHASH X NIL IL:CLISPARRAY)
(IL:MARKASCHANGED (LIST ATOM (CAR X))
'IL:ALISTS NIL)
(IL:SETQ FOUND-CHANGE T))
(WHEN (NOT FOUND-CHANGE)
(COMPLETION CONTEXT STRUCTURE CHANGED? ATOM 'IL:ALISTS IFCHANGEDFN))))))

```

(COMPLETION

```

(IL:LAMBDA (CONTEXT STRUCTURE CHANGED? ATOM TYPE IFCHANGEDFN) ; Edited 18-Jan-88 15:40 by woz
(COND
((OR (NOT CHANGED?)
(EQ CHANGED? :ABORT)))
(EQ TYPE 'IL:FNS)
(IL:FIXEDITDATE STRUCTURE)
(IL:PUTDEF ATOM TYPE STRUCTURE)
;; (if (CCODEP (GETD atom)) then (if (NEQ structure (GETPROP atom (QUOTE EXPR))) then (SHOULDNT 'where did this come from?))
;; else (if (OR (EQ DFNFLG (QUOTE PROP)) (EQ DFNFLG (QUOTE ALLPROP))) then (SETQ message 'NOT unsaved.) else
;; (UNSAVEDEF atom) (SETQ message 'unsaved.)) (if (OPENWP (fetch DisplayWindow of context)) then (printout (get.prompt.window
;; context) atom message) else (* ; 'window was closed. msg in promptwindow.) (printout PROMPTWINDOW T atom message))) else (if
;; (NEQ structure (GETD atom)) then (if (NULL (GETD atom)) then (PUTD atom structure) else (SHOULDNT 'where did this come from?))))))
)
(IFCHANGEDFN
;; this is a bit wrong: the doc for edite says the ifchangedfn gets called with the last arg NIL if the editor is aborted. But we don't call
;; the ifchangedfn at all if the user did an abort command. The idea is that ABORT is implemented as "don't install even if changes
;; we're made"
(FUNCALL IFCHANGEDFN ATOM STRUCTURE TYPE T))
((IL:NEQ TYPE 'IL:PROPLST)
(IL:MARKASCHANGED ATOM TYPE)))
(WHEN (AND (IL:LITATOM ATOM)
IL:ADDSPELLFLG)
(IL:ADDSPELL ATOM))))

```

(PROPS-COMPLETION

```

(IL:LAMBDA (CONTEXT STRUCTURE CHANGED? ATOM IFCHANGEDFN OLDPROPS) ; Edited 20-Apr-88 11:39 by woz
(WHEN (EQ CHANGED? T)
;; don't do anything if changed? is NIL or :ABORT
(IL:BIND OLD-VALUE FOUND-ONE IL:FOR NEW-PROP IL:ON (IL:GETPROPLIST ATOM) IL:BY (CDDR NEW-PROP)
IL:UNLESS (IL:FOR OLD-PROP IL:ON OLDPROPS IL:BY (CDDR OLD-PROP) IL:WHEN (EQ (CAR OLD-PROP)
(CAR NEW-PROP)))
IL:DO (RETURN (AND (EQ (CADR OLD-PROP)
(CADR NEW-PROP))
(OR (IL:NLISTP (CADR OLD-PROP))
(AND IL:CLISPARRAY (IL:SETQ OLD-VALUE (IL:GETHASH (CADR NEW-PROP)
IL:CLISPARRAY))
(EQ (CAADR NEW-PROP)
(CAR OLD-VALUE))
(EQ (CDADR NEW-PROP)
(CDR OLD-VALUE))
(OR (IL:PUTHASH (CADR NEW-PROP)
NIL IL:CLISPARRAY)
T))))))
IL:DO (IL:MARKASCHANGED (LIST ATOM (CAR NEW-PROP))
'IL:PROPS NIL)
(IL:SETQ FOUND-ONE T))))))

```

(TTYFN

```

(IL:LAMBDA (ATM TYPE) ; Edited 21-Jan-91 12:02 by woz
(DECLARE (SPECIAL IL:L IL:EDITCHANGES)
;; this is a replacement for the TTY editor's TTY: command, which starts an SEdit process to do interactive editing for a while. it uses the TTY
;; editor's edit chain to determine the initial selection in the structure, and scrolls the window to make sure the selection's visible. it then waits until
;; the user signals that they've done enough editing (usually by closing or shrinking the window)
(LET* ((EDIT-CHANGES IL:EDITCHANGES)
(EVENT (IL:CREATE.EVENT "SEdit TTYFN Completion"))
(COMPLETION-FN #'(LAMBDA (CONTEXT STRUCTURE CHANGED?)
(WHEN (EQ CHANGED? T)
(RPLACA (CDR EDIT-CHANGES)
T))
(IL:NOTIFY.EVENT EVENT))))
(CONTEXT (SEdit (CAR (LAST IL:L))
(LIST :NAME ATM :TYPE TYPE :COMPLETION-FN COMPLETION-FN)))
NODE)
(IL:WITH.MONITOR (IL:|fetch| CONTEXT-LOCK IL:|of| CONTEXT)
(WHEN (IL:SETQ NODE (LOCATE-NODE-FROM-EDITCHAIN IL:L (IL:|fetch| ROOT IL:|of| CONTEXT)))
(SELECTION-DOWN CONTEXT)
(SELECT-NODE CONTEXT NODE)
(SET-POINT-NOWHERE (IL:|fetch| CARET-POINT IL:|of| CONTEXT)))

```

```

(NORMALIZE-SELECTION CONTEXT)
(SELECTION-UP CONTEXT))
;; let the user do their editing, then signal completion, before we return
(IL:|until| (EQ EVENT (IL:AWAIT.EVENT EVENT))))))

```

**(LOCATE-NODE-FROM-EDITCHAIN**

(IL:LAMBDA (CHAIN ROOT)

; Edited 17-Nov-87 11:27 by DCB

;;; when SEdit is called under the TTY editor, it gets an edit chain to determine the initial selection. this process finds the node that editchain refers to (or  
;;; returns NIL if no such node exists)

```

(IF (NULL CHAIN)
  ROOT
  (IL:FOR SUBNODE IL:IN (CDR (IL:FETCH SUB-NODES IL:OF (LOCATE-NODE-FROM-EDITCHAIN (CDR CHAIN)
                                                                                   ROOT)))
    IL:THEREIS (EQ (IL:FETCH STRUCTURE IL:OF SUBNODE)
                  (CAR CHAIN))))))
)

```

;; Mess around with the tty editor's TTY: command by defining a hook and then making TTY: a macro which calls the hook.

**(DEFUN SMART-TTYFN ()**

;;; This is a replacement for the TTY editor's TTY: command, which is supposed to start up a TTY editor. We first check to see if we're

```

(DECLARE (SPECIAL IL:L IL:TTYEDITFN)
  (IF (AND (BOUNDP 'IL:TTYEDITFN)
           IL:TTYEDITFN)
    (FUNCALL IL:TTYEDITFN)
    (IL:EDITLO IL:L NIL 'IL:TTY\:' IL:TTY\:)))

```

```

(PUSHNEW '(IL:TTY\:' NIL (IL:E (SMART-TTYFN)
                               T))
  IL:EDITMACROS :TEST #'IL:EQUAL)

```

(IL:DEFINEQ

**(PRETTY-PRINT**

(IL:LAMBDA (STRUCTURE STREAM RIGHT-MARGIN)

; Edited 7-Jul-87 12:59 by DCB

;;; with just a little hacking, SEdit can be used to prettyprint functions onto TEdit streams. we make up a slightly weird context, and run the parser and  
;;; linearizer each once. stream is actually the textobj of the tedit stream. note that right.margin is in micas (since that's the unit that interpress font  
;;; widths are expressed in)

```

(OR (BOUNDP 'PRETTY-PRINT-ENV)
  (CREATE-PRETTY-PRINT-ENV))
(LET ((CONTEXT (IL:CREATE EDIT-CONTEXT
                          DISPLAY-WINDOW IL:_ STREAM
                          ENVIRONMENT IL:_ PRETTY-PRINT-ENV
                          CURRENT-X IL:_ 0
                          COMMENT-WIDTH IL:_ (IL:FIXR (IL:TIMES 200 IL:MICASPERPT))
                          COMMENT-SEPARATION IL:_ (IL:FIXR (IL:TIMES 30 IL:MICASPERPT))))
  (ROOT (IL:CREATE EDIT-NODE
                NODE-TYPE IL:_ TYPE-ROOT
                SUB-NODES IL:_ (LIST 0)
                START-X IL:_ 0
                DEPTH IL:_ 0)))
  (IL:REPLACE CURRENT-NODE IL:OF CONTEXT IL:WITH ROOT)
  (PARSE STRUCTURE CONTEXT)
  (COMPUTE-ALL-FORMATS CONTEXT NIL)
  (LINEARIZE (SUBNODE 1 ROOT)
    CONTEXT
    (IL:FIXR RIGHT-MARGIN))))

```

**(MAP-FONT**

(IL:LAMBDA (FONT ENV)

; Edited 17-Nov-87 10:43 by DCB

;; this is called when using the prettyprint environment, under output.string. we have to map the font into something acceptable to TEDIT.INSERT  
;; (since interpress fonts confuse it)

```

(COND
  ((EQ FONT (IL:FETCH DEFAULT-FONT IL:OF ENV))
   IL:DEFAULTFONT)
  ((EQ FONT (IL:FETCH KEYWORD-FONT IL:OF ENV))
   IL:CLISPFONT)
  ((EQ FONT (IL:FETCH ITALIC-FONT IL:OF ENV))
   IL:ITALICFONT)
  ((EQ FONT (IL:FETCH COMMENT-FONT IL:OF ENV))
   IL:COMMENTFONT)
  ((EQ FONT (IL:FETCH BROKEN-ATOM-FONT IL:OF ENV))
   IL:BOLDFONT)
  (T (IL:SHOULDNT "unexpected font!"))))

```



)

:: these guys allow you to print and read structures with broken atoms and gaps. just a convenience for the loser who forgets to get them out of his  
:: code.

```
(DEFUN MAKE-BROKEN-ATOM (STRING)
  (IL:create| BROKEN-ATOM
    ATOM-CHARS IL:_ STRING))
```

```
(DEFUN PRINT-BROKEN-ATOM (BROKEN-ATOM STREAM X)
  (FORMAT STREAM "#.(~S ~S)" 'MAKE-BROKEN-ATOM (IL:fetch| ATOM-CHARS IL:of| BROKEN-ATOM))
  T)
```

```
(DEFUN MAKE-GAP (ITEM)
  (IL:create| GAP
    LINEAR-ITEM IL:_ ITEM))
```

```
(DEFUN PRINT-GAP (GAP STREAM X)
  (FORMAT STREAM "#.(~S '~S)" 'MAKE-GAP (IL:fetch| LINEAR-ITEM IL:of| GAP))
  T)
```

```
(IL:DEFPRINT 'BROKEN-ATOM 'PRINT-BROKEN-ATOM)
```

```
(IL:DEFPRINT 'GAP 'PRINT-GAP)
```

```
(IL:PUTPROPS IL:SEDIT-TOPLEVEL IL:COPYRIGHT ("Venue & Xerox Corporation" 1986 1987 1988 1990 1991))
```

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