

*File created:* 18-Jul-2023 12:27:33 {DSK}<home>frank>il>medley>gmedley>lispusers>EVALOBJ.;2

*changes to:* (VARS EVALOBJCOMS)

```
previous date: 11-May-2018 08:22:13 {DSK}<home>frank>il>medley>qmedley>lispusers>EVALOBJ.;1
```

Read Table: INTERLISP

*Package:* INTERLISP

*Format:* XCCS

(RPA00 EVALOBJCOMS

```
[ (FILES IMOBJAPPLICATION)
(DECLARE%: DOEVAL@LOAD DONTCOPY (FILES (FROM LOADUPS)
                                     EXPORTS.ALL))
(FNS EVALOBJ.BUTTONEVENTINFN EVALOBJ.DISPLAYFN EVALOBJ.IMAGEBOXFN EVALOBJ.COPYFN EVALOBJ.CREATE
EVALOBJ.GETFN EVALOBJ.PUTFN)
(FNS PARAMS TEXTSTREAMPARAM)
[COMS (FNS EVALOBJ.DISMANTLEFN EVALOBJ.SELTOOBJ)
(P (AND (GETD 'ADDTOIMOBJAPPLICATIONMENU)
        (ADDTOIMOBJAPPLICATIONMENU ' (Eval% form 'EVALOBJ.SELTOOBJ "Converts current selection to
an evaluation object"
      (SUBITEMS [|Eval at Create/Load|
                 (FUNCTION (LAMBDA (TEXTSTREAM SELECTION)
                           (EVALOBJ.SELTOOBJ
                            TEXTSTREAM SELECTION
                            'CREATE/LOAD]
                 (|Eval at Hardcopy| (FUNCTION
                                     (LAMBDA (TEXTSTREAM
                                             SELECTION)
                                           (EVALOBJ.SELTOOBJ
                                            TEXTSTREAM
                                            SELECTION
                                            'HARDCOPY]
                                     (INITIVARS (EVALOBJ.IMAGEFN (IMAGEFNCREATE 'EVALOBJ.DISPLAYFN 'EVALOBJ.IMAGEBOXFN 'EVALOBJ.PUTFN
                                                'EVALOBJ.GETFN
                                                'EVALOBJ.COPYFN
                                                'EVALOBJ.BUTTONEVENTINFN NIL NIL NIL NIL NIL NIL ' (LAMBDA (OBJ)
                                                                                                     ""])
(GLOBALVARS EVALOBJ.IMAGEFN)
(DECLARE%: DONTVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILEVARS (ADDVARS (NLAMA PARAMS)
                              (NLAML)
                              (LAMA]))
```

(FILESLOAD IMOBJAPPLICATION)

```
(DECLARE%: DOEVAL@LOAD DONTCOPY
```

```
(FILESLOAD (FROM LOADUPS)
EXPORTS.ALL)
```

)

(DEFINEO

(EVALOBJ.BUTTONEVENTINFN

[LAMBDA (OBJ STREAM)]

: Edited 19-Aug-97 14:03 by rmk:

(\* jtm%: " 5-Aug-88 15:40")

; the user has pressed a button inside the eval OBJ

```
(CL:WHEN [MENU (CREATE MENU
```

```
ITEMS _ ' ((|Edit evaulation form| T " Opens a window to edit the evaluation form"]
```

```
;;; SEDIT always forks a process. We hang in that process until it closes (CLOSE-ON-COMPLETION)
```

(ALLOW.BUTTON.EVENTS)

```
[IMAGEOBJPROP OBJ 'OBJECTDATUM (LET ((*READTABLE* FILERDTBL))
(DECLARE (SPECVARS *READTABLE*))
(EDITE (COPY (IMAGEOBJPROP OBJ 'OBJECTDATUM))
NIL
'Evaluation% Form NIL NIL '(:CLOSE-ON-COMPLETION]
```

```
(IMAGEOBJPROP OBJ 'EVALUATED NIL)
'CHANGED) ])
```

(EVALOBJ.DISPLAYFN

[LAMBDA (OBJ IMAGESTREAM)

: Edited 19-Aug-97 13:46 by rmk:

(\* fsq "17-Sep-87 11:14")

```
;; Display an Eval imageobject. If the stream-type is display, then shows the form. Otherwise the stream-type is hardcopy and the form is
;; executed.
```

```
(DECLARE (SPECVARS OBJ IMAGESTREAM)
  (USEDFREE TEXTSTREAM))
```

```
(SELECTO (IMAGESTREAMTYPE IMAGESTREAM)
```

```

LETQ (IMAGESTREAMTYPE IMAGESTREAM)
(DISPLAY (LET ((FONT (DSPFONT ' (TERMINAL 10)
                                IMAGESTREAM)))

```

```
(PRIN3 "{Eval: " IMAGESTREAM)
```

```
(PRIN4 (IMAGEOBJPROP OBJ 'OBJECTDATUM)
IMAGESTREAM)
```

```

      (PRIN3 "}" IMAGESTREAM)
      (DSPFONT FONT IMAGESTREAM)))
  (CL:WHEN (EQMEMB (IMAGEOBJPROP OBJ 'WHEN)
    ' (NIL HARDCOPY))
    (LET [(FORM/FN (IMAGEOBJPROP OBJ 'OBJECTDATUM)
      (IF (LITATOM FORM/FN)
        THEN (APPLY* FORM/FN IMAGESTREAM TEXTSTREAM OBJ)
        ELSE (EVAL FORM/FN)))]])

```

**(EVALOBJ.IMAGEBOXFN**

[LAMBDA (OBJ IMAGESTREAM CURRENTX RIGHTMARGIN)

; Edited 19-Aug-97 13:43 by rmk:

(\* ss%: "27-Jun-87 15:50")

;; Return the ImageBox for an EVALOBJ. Evaluates a CREATE/LOAD form that hasn't yet been evaluated (presumably came from the COPYFN).

```

(DECLARE (SPECVARS OBJ IMAGESTREAM CURRENTX RIGHTMARGIN)
  (USEDFREE TEXTSTREAM))
(CL:WHEN [AND (EQ (IMAGEOBJPROP OBJ 'WHEN)
  'CREATE/LOAD)
  (NOT (IMAGEOBJPROP OBJ 'EVALUATED])
  (LET [(FORM/FN (IMAGEOBJPROP OBJ 'OBJECTDATUM)
    (IF (LITATOM FORM/FN)
      THEN (APPLY* FORM/FN IMAGESTREAM TEXTSTREAM OBJ)
      ELSE (EVAL FORM/FN))
    (IMAGEOBJPROP OBJ 'EVALUATED T)))]
  (SELECTQ (IMAGESTREAMTYPE IMAGESTREAM)
    (DISPLAY (LET [(FONT (FONTCREATE ' (TERMINAL 10)
      (CREATE IMAGEBOX
        XSIZE _ (PLUS (STRINGWIDTH "{Eval: }" FONT)
          (STRINGWIDTH (IMAGEOBJPROP OBJ 'OBJECTDATUM)
            FONT T (FIND-READTABLE "INTERLISP"))))
        YSIZE _ (FONTPROP FONT 'HEIGHT)
        YDESC _ (FONTPROP FONT 'DESCENT)
        XKERN _ 0)))]
      (CREATE IMAGEBOX
        XSIZE _ 0
        YSIZE _ 0
        YDESC _ 0
        XKERN _ 0])

```

**(EVALOBJ.COPYFN**

[LAMBDA (OBJ)

; Edited 19-Aug-97 13:30 by rmk:

```

  (EVALOBJ.CREATE (COPY (IMAGEOBJPROP OBJ 'OBJECTDATUM))
    (IMAGEOBJPROP OBJ 'WHEN])

```

**(EVALOBJ.CREATE**

[LAMBDA (FORM WHEN TEXTSTREAM)

; Edited 6-May-2000 09:24 by rmk:

```

(DECLARE (SPECVARS TEXTSTREAM))
;; For EVAL at CREATE/LOAD. TEXTSTREAM is NIL on call from COPYFN, since the destination stream isn't known. The object is not marked
;; as evaluated, so that the imagebox fn will do it the first time it is displayed/printed. Hopefully it won't be copied to place where it isn't initially
;; displayed--that's the best we can do.

```

```

(IF (AND FORM (OR (LISTP FORM)
  (LITATOM FORM)))
  THEN (LET ((OBJ (IMAGEOBJCREATE FORM EVALOBJ.IMAGEFNS)))
    (IMAGEOBJPROP OBJ 'DISMANTLEFN (FUNCTION EVALOBJ.DISMANTLEFN))
    (IMAGEOBJPROP OBJ 'TEDIT-TO-TEX-FN (FUNCTION TRUE))
    (IMAGEOBJPROP OBJ 'WHEN WHEN)
    (CL:WHEN (AND TEXTSTREAM (EQ WHEN 'CREATE/LOAD))
      (IF (LITATOM FORM)
        THEN ;; NIL is image stream. It should be an error if a CREATE/LOAD form accesses an image stream!
          (APPLY* FORM NIL TEXTSTREAM OBJ)
        ELSE (EVAL FORM))
      (IMAGEOBJPROP OBJ 'EVALUATED T))
    OBJ)
  ELSE (ERROR!))

```

**(EVALOBJ.GETFN**

```

[LAMBDA (FILESTREAM TEXTSTREAM)
  (LET ((DATA (HREAD FILESTREAM))
    FORM WHEN)
    (IF (LITATOM (CAR (LISTP DATA)))
      THEN (SETQ FORM DATA)
      ELSE (SETQ FORM (CAR DATA)
        (SETQ WHEN (CADR DATA))))
    (EVALOBJ.CREATE FORM WHEN TEXTSTREAM])

```

; Edited 19-Aug-97 13:25 by rmk:

**(EVALOBJ.PUTFN**

[LAMBDA (OBJ STREAM)

; Edited 19-Aug-97 13:28 by rmk:

;; Put a description of an eval object into the file.

```

  (HPRINT (LIST (IMAGEOBJPROP OBJ 'OBJECTDATUM)

```

```

        (IMAGEOBJPROP OBJ 'WHEN))
    STREAM])
)

```

```

(DEFINEQ

```

## (PARAMS

```

[NLAMBDA PARAMS
  (DECLARE (USEDFREE TEXTSTREAM))
  ;; Each P is either
  ;;   a list of the form (name value), in which case value becomes the (new) value of parameter name;
  ;;   a list of the form (name v1 v2 ...) in which case it is treated as (name (v1 v2 ...))
  ;;   a list of the form (name), in which case the value for name (even NIL) is removed
  ;;   a litatom, in which case it is treated as a list (atom T).
  ;; The form (name) is different from (name NIL)--the disinction allows the client to distinguish between no value (hence use a default) and a value of
  ;; NIL.
  (FOR P PCELL [PROP _ (APPEND (STREAMPROP TEXTSTREAM 'PARAMETERS] IN PARAMS
    DO (IF (LISTP P)
      THEN [IF (CDDR P)
        THEN (SETQ P (LIST (CAR P)
                           (CDR P]
        ELSEIF (LITATOM P)
        THEN (SETQ P (LIST P T))
        ELSE (PROMPTPRINT P " is not a valid text parameter"))
      (SETQ PCELL (ASSOC (CAR P)
                        PROP))
      (IF (CDR P)
        THEN [IF PCELL
          THEN (RPLACA (CDR PCELL)
                      (CDR P))
          ELSE (PUSH PROP (LIST (CAR P)
                                (CDR P]
        ELSEIF PCELL
        THEN (SETQ PROP (DREMOVE PCELL PROP)))
      FINALLY (STREAMPROP TEXTSTREAM 'PARAMETERS PROP)
      (RETURN PROP))

```

; Edited 7-Nov-97 08:41 by rmk:

## (TEXTSTREAMPARAM

```

[LAMBDA (PARAMNAME DEFAULTVALUE)
  (DECLARE (USEDFREE TEXTSTREAM))
  ;; Returns the value of the parameter PARAMNAME on a higher-bound TEXTSTREAM, or DEFAULTVALUE if the parameter is not set.
  (IF (AND (BOUNDP 'TEXTSTREAM)
    (STREAMP TEXTSTREAM))
    THEN (LET [(PCELL (ASSOC PARAMNAME (STREAMPROP TEXTSTREAM 'PARAMETERS]
      (IF PCELL
        THEN (CDR PCELL)
        ELSE DEFAULTVALUE))
    ELSE DEFAULTVALUE])

```

; Edited 3-Aug-98 13:48 by rmk:

```

)

```

```

(DEFINEQ

```

## (EVALOBJ.DISMANTLEFN

```

[LAMBDA (TEXTSTREAM OBJ CHAR#)
  (SETFILEPTR TEXTSTREAM (SUB1 CHAR#))
  (RESETLST
    (RESETSAVE %#RPARS)
    (PRINTOUT TEXTSTREAM 2 .PPV (IMAGEOBJPROP OBJ 'OBJECTDATUM))))

```

; Edited 27-Jan-97 18:03 by rmk:

## (EVALOBJ.SELTOOBJ

```

[LAMBDA (TEXTSTREAM SELECTION WHEN)
  (IF (COLLECTIMOBJSINSEL TEXTSTREAM SELECTION)
    THEN (TEDIT.PROMPTPRINT TEXTSTREAM "Evaluation form can't contain image object" T)
    ELSE
      (LET ((OBJ (EVALOBJ.CREATE (READ (OPENSTRINGSTREAM (CONCAT (TEDIT.SEL.AS.STRING TEXTSTREAM
                                                                    SELECTION)
                                                                    "]]]]"))))
        (FIND-READTABLE "INTERLISP"))
        (WHEN TEXTSTREAM)))
      (REPLACESLWITHOBJ OBJ TEXTSTREAM SELECTION])

```

; Edited 19-Aug-97 13:23 by rmk:

```

)

```

```

[AND (GETD 'ADDTOIMOBJAPPLICATIONMENU)
  (ADDTOIMOBJAPPLICATIONMENU '(Eval% form 'EVALOBJ.SELTOOBJ "Converts current selection to an evaluation
object" (SUBITEMS [|Eval at Create/Load| (FUNCTION (LAMBDA (TEXTSTREAM
SELECTION)
(EVALOBJ.SELTOOBJ
TEXTSTREAM

```

```
SELECTION
'CREATE/LOAD]
(|Eval at Hardcopy| (FUNCTION (LAMBDA (TEXTSTREAM
SELECTION)
(EVALOBJ.SELTOOBJ
TEXTSTREAM SELECTION
'HARDCOPY]
```

```
(RPAQ? EVALOBJ.IMAGEFNS
[IMAGEFNSCREATE 'EVALOBJ.DISPLAYFN 'EVALOBJ.IMAGEBOXFN 'EVALOBJ.PUTFN 'EVALOBJ.GETFN 'EVALOBJ.COPYFN
'EVALOBJ.BUTTONEVENTINFN NIL NIL NIL NIL NIL NIL ' (LAMBDA (OBJ)
"")]
)
(DECLARE%: DOEVAL@COMPILE DONTCOPY
)
(GLOBALVARS EVALOBJ.IMAGEFNS)
)
(DECLARE%: DONTVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILEVARS
)
(ADDTOVAR NLAMA PARAMS)
(ADDTOVAR NLAML )
(ADDTOVAR LAMA )
)
```

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