

File created: 25-Jun-2024 12:00:23 {WMEDLEY}<lispusers>tmax>TMAX-DATE.;8

edit by: rmk

changes to: (FNS DATE.GETFN)

previous date: 24-Jun-2024 23:30:47 {WMEDLEY}<lispusers>tmax>TMAX-DATE.;7

Read Table: XCL

Package: INTERLISP

Format: XCCS

(RPAQQ **TMAX-DATECOMS**

:: Developed under support from NIH grant RR-00785. Written by Frank Gilmurray and Sami Shaio. Updated by Ron Kaplan (2021)

;;; TMAX-DATE ImageObject functions

```
(FNS DATEOBJ DATEOBJP DATE.DISPLAYFN DATE.IMAGEBOXFN DATE.PUTFN DATE.GETFN DATE.COPYFN
DATE.BUTTONEVENTINFN)
```

;;; Date support functions

```
(FNS CURRENT.DISPLAY.FONT CHANGE.DATE.FORMAT)
```

;;; Functions to change date format

```
(FNS FINDTIME FINDHOUR AMPM FINDDAY NUMP FINDMONTH FINDYEAR)
(VARS DATE.FORMAT.ITEMS)
(FNS MAKE.DATEOBJ.IMAGEFNS)
(INITVARS (\\DATEOBJ.IMAGEFNS (MAKE.DATEOBJ.IMAGEFNS)))
(ADDVARS (IMAGEOBJGETFNS (DATE.GETFN)))
(DECLARE\ :DOEVAL@COMPILE DONTCOPY (RECORDS DATERECORD)))
```

:: Developed under support from NIH grant RR-00785. Written by Frank Gilmurray and Sami Shaio. Updated by Ron Kaplan (2021)

;;; TMAX-DATE ImageObject functions

(DEFINEQ

(DATEOBJ

```
(LAMBDA (DATE/TIME DATE.STRING TEMPLATE) (* |fsg| "13-Jul-87 11:51")
  (* * |Create| |an| |instance| |of| \a DATE |imageobj.|)
  (LET* ((TEMPLATE.TYPE (OR TEMPLATE ' (M D Y F)))
        (DATEANDTIME (OR DATE/TIME (MKSTRING (DATE))))
        (DISPLAYDATE (OR DATE.STRING (CHANGE.DATE.FORMAT DATEANDTIME TEMPLATE.TYPE)))
        (NEWOBJ (IMAGEOBJCREATE (|create| DATERECORD
                                DATESTRING _ DATEANDTIME
                                DISPLAY.DATE _ DISPLAYDATE
                                TEMPLATE.DATE _ TEMPLATE.TYPE)
                                \\DATEOBJ.IMAGEFNS)))
        (IMAGEOBJPROP NEWOBJ 'TYPE 'DATEOBJ)
        NEWOBJ)))
```

(DATEOBJP

```
(LAMBDA (IMOBJ) (* |ss| "27-Jun-87 15:39")
  (* |Tests| |an| |imageobj| |to| |see| |if| |it| |is| \a |date| |imageobject.|
  B\y |convention.| |testing| |functions| |for| |an| |imageobject| |will| |be| |named|
  (CONCAT |<type| |of| |imageobj>| "P"))
  (AND IMOBJ (EQ (IMAGEOBJPROP IMOBJ 'TYPE)
                 'DATEOBJ)))
```

(DATE.DISPLAYFN

```
(LAMBDA (OBJ STREAM STREAMTYPE HOSTSTREAM) (* |fsg| "17-Sep-87 10:44")
  (* * |Display| |function| |for| |date| |imageobjs.|)
  (TMAX.SHADEOBJ OBJ STREAM)
  (PRIN1 (|fetch| DISPLAY.DATE |of| (|fetch| OBJECTDATUM |of| OBJ)
        STREAM)))
```

(DATE.IMAGEBOXFN

```
(LAMBDA (OBJ STREAM CURRENTX RIGHTMARGIN) ; Edited 25-May-2024 20:34 by rmk
  (|create| IMAGEBOX (* |ss| "27-Jun-87 15:38")
    XSIZE _ (STRINGWIDTH (|fetch| DISPLAY.DATE |of| (|fetch| OBJECTDATUM |of| OBJ))
```

```
STREAM)
Ysize _ (fontprop stream 'HEIGHT)
YDESC _ (fontprop stream 'DESCENT)
XKERN _ 0)))
```

(DATE.PUTFN

```
(LAMBDA (OBJ STREAM)
  (PRIN2 (LIST '|Date| (|fetch| OBJECTDATUM |of| OBJ)
          STREAM)))
```

(* |ss:| "27-Jun-87 15:38")

(DATE.GETFN

```
(LAMBDA (STREAM COPY.OBJECT)

  (DECLARE (USEDFREE TSTREAM))
  (TSP.SETUP.FMMENU (\\TEDIT.PRIMARYPANE TSTREAM))
  (APPLY (FUNCTION DATEOBJ)
         (OR COPY.OBJECT (CADR (READ STREAM))))))
```

; Edited 25-Jun-2024 11:59 by rmk
; Edited 16-Mar-2024 07:45 by rmk
(* |fsg| "20-Aug-87 14:56")

(DATE.COPYFN

```
(LAMBDA (IMAGE.OBJ SOURCE.STREAM TARGET.STREAM)

  (** |Here| |to| COPY |a| |Date| |Image| |Object|.|)

  (SELECTQ (IMAGESTREAMTYPE TARGET.STREAM)
    (TEXT (LET ((TEXTOBJ (TEXTOBJ TARGET.STREAM)))
              (APPLY* (IMAGEOBJPROP IMAGE.OBJ 'GETFN)
                      TARGET.STREAM
                      (|fetch| OBJECTDATUM |of| IMAGE.OBJ))))
    (ERROR "Unknown TARGET stream type" (IMAGESTREAMTYPE TARGET.STREAM))))
```

(* |fsg| "23-Jul-87 11:34")

(DATE.BUTTONEVENTINFN

```
(LAMBDA (OBJ WINDOWSTREAM SELECTION RELX RELY WINDOW HOSTSTREAM BUTTON)

  (AND (MOUSESTATE MIDDLE)
    (LET ((OLD.DATE (|fetch| OBJECTDATUM |of| OBJ))
          (NEW.DATE (MENU (|create| MENU
                          TITLE _ '|Date/Time Menu|
                          ITEMS _ DATE.FORMAT.ITEMS
                          CENTERFLG _ T))))
      (AND NEW.DATE (NOT (EQUAL (|fetch| (DATERECORD TEMPLATE.DATE) |of| OLD.DATE)
                                NEW.DATE))
        (PROGN (|with| DATERECORD OLD.DATE (COND
          (LISTP NEW.DATE)
          (SETQ DISPLAY.DATE (CHANGE.DATE.FORMAT DATESTRING
                                                    NEW.DATE))
          (SETQ TEMPLATE.DATE NEW.DATE))
        (T (SETQ DATESTRING (MKSTRING (DATE)))
          (SETQ DISPLAY.DATE (CHANGE.DATE.FORMAT DATESTRING
                                                    TEMPLATE.DATE))))))
      'CHANGED))))))
```

(* |fsg| "11-Aug-87 13:56")

;;; Date support functions

(DEFINEQ

(CURRENT.DISPLAY.FONT

```
(LAMBDA (TEXTOBJ)

  (LET ((CURRENT.FONT (|fetch| CLFONT |of| (GETTOBJ TEXTOBJ CARETLOOKS)))
        (COND
          ((TYPENAMEP CURRENT.FONT 'FONTDESCRIPTOR)
           CURRENT.FONT)
          ((TYPENAMEP CURRENT.FONT 'FONTCLASS)
           (|fetch| DISPLAYFD |of| CURRENT.FONT))
          (T (SHOULDN'T "Can't get current font")))))
```

; Edited 25-May-2024 20:36 by rmk
; Edited 9-May-2024 10:05 by rmk
; Edited 12-Mar-88 15:28 by drc:

;;; Return the current font. This function is not now used in TMAX, but the comment says "this code is also used in the LetterHead code."

(CHANGE.DATE.FORMAT

```
(LAMBDA (DATE TEMPLATE)

  (COND
    (TEMPLATE (LET ((VERSION (SELECTQ (CAR (LAST TEMPLATE))
```

; Edited 24-Oct-2021 13:47 by rmk:
(* |ss:| "27-Jun-87 15:36")

;;; Convert the string DATE to the format specified by TEMPLATE.

```

      (A ' ABBREV)
      (F ' FULL)
      ' EURO)
(FUNCLST ' ((D FINDDAY)
            (M FINDMONTH)
            (Y FINDYEAR))))
(COND
  ((EQ T (CAR TEMPLATE))
   (FINDTIME DATE VERSION))
  (T (LET ((CH (|if| (EQ VERSION ' ABBREV)
                    |then| "/"
                    |else| " ")))
      (CONCAT (APPLY (CADR (ASSOC (CAR TEMPLATE)
                                FUNCLST))
                (LIST DATE VERSION))
              CH
              (APPLY (CADR (ASSOC (CADR TEMPLATE)
                                FUNCLST))
                    (LIST DATE VERSION))
              (|if| (EQUAL CH " ")
                    |then| ", "
                    |else| CH)
              (APPLY (CADR (ASSOC (CADDR TEMPLATE)
                                FUNCLST))
                    (LIST DATE VERSION))))))))
(T (DATE))))

```

)

;;; Functions to change date format

(DEFINIQ

(FINDTIME

(LAMBDA (OLDDATE VERSION)

; Edited 24-Oct-2021 13:28 by rmk:

;; RMK: The spell-out default is very strange: it rounds the minutes to the nearest half hour.

;; RMK: Correct for Y2K: Substrings then work. Still, terrible code.

(* |ss:| "27-Jun-87 15:40")

```

(LET* ((UPDATE (\UNPACKDATE (IDATE OLDDATE)))
      (HOUR (CAR (NTH UPDATE 4)))
      (MINUTES (CAR (NTH UPDATE 5))))
  (SELECTQ VERSION
    (ABBREV (CONCAT (FINDHOUR HOUR)
                  ":" MINUTES " " (AMPM HOUR)))
    (EURO (SUBSTRING OLDDATE 13 17))
    (CONCAT (SELECTQ (|if| (LESSP MINUTES 46)
                        |then| (FINDHOUR HOUR)
                        |else| (PLUS 1 (FINDHOUR HOUR)))
            (1 "one")
            (2 "two")
            (3 "three")
            (4 "four")
            (5 "five")
            (6 "six")
            (7 "seven")
            (8 "eight")
            (9 "nine")
            (10 "ten")
            (11 "eleven")
            (12 "twelve")
            NIL)
          " "
          (|if| (AND (GREATERP MINUTES 15)
                    (LESSP MINUTES 45))
                |then| "thirty"
                |else| "o'clock")
          " "
          (AMPM HOUR))))))

```

(FINDHOUR

(LAMBDA (HOUR)

; Edited 24-Oct-2021 13:35 by rmk:

(* |ss:| " 8-Feb-86 17:49")

```

(COND
  ((LESSP HOUR 13)
   HOUR)
  (T (IDIFFERENCE HOUR 12))))

```

(AMPM

(LAMBDA (HOUR)

; Edited 24-Oct-2021 13:37 by rmk:

```

(|if| (OR (LESSP HOUR 12)
          (EQ HOUR 24))
      |then| "a.m."
      |else| "p.m.)))

```

(FINDDAY

```
(LAMBDA (OLDDATE VERSION)
  (MKATOM (|if| (NUMP (SUBSTRING OLDDATE 1 2))
    |then| (SUBSTRING OLDDATE 1 2)
    |else| (SUBSTRING OLDDATE 2 2))))))
```

(* |shw:| " 1-Jul-85 11:28")

(NUMP

```
(LAMBDA (N)
  (NOT (NULL (NUMBERP (MKATOM N))))))
```

(* |edited:| " 4-Apr-86 17:55")
(* |changed|)

(FINDMONTH

```
(LAMBDA (OLDDATE VERSION)
```

; Edited 24-Oct-2021 13:52 by rmk:
(* |ss:| "27-Jun-87 15:40")

:: \UNPACKDATE uses 0 origin for months

```
(LET ((MONTH (ASSOC (ADD1 (CAR (NTH (\UNPACKDATE (IDATE OLDDATE)
  2))))
  '( (1 |Jan| |January|)
    (2 |Feb| |February|)
    (3 |Mar| |March|)
    (4 |Apr| |April|)
    (5 |May| |May|)
    (6 |Jun| |June|)
    (7 |Jul| |July|)
    (8 |Aug| |August|)
    (9 |Sep| |September|)
    (10 |Oct| |October|)
    (11 |Nov| |November|)
    (12 |Dec| |December|))))))
  (|if| (EQ VERSION ' ABBREV)
    |then| (CADDR MONTH)
    |else| (CADDR MONTH))))
```

(FINDYEAR

```
(LAMBDA (OLDDATE VERSION)
```

; Edited 24-Oct-2021 13:48 by rmk:
(* |ss:| "27-Jun-87 15:41")

```
(CAR (\UNPACKDATE (IDATE OLDDATE))))
```

(RPAQQ DATE.FORMAT.ITEMS

```
((|Month Day, Year| ' (M D Y F)
  "Insert current date as \"March 8, 1952\"")
(|Month/Day/Year| ' (M D Y A)
  "Insert current date as \"3/8/52\"")
(|Day Month, Year| ' (D M Y F)
  "Insert current date as \"8 March, 1952\"")
(|Day/Month/Year| ' (D M Y A)
  "Insert current date as \"8/3/52\"")
(|Time| ' (T F)
  "Insert current time as \"four thirty p.m.\"")
(|Numbered Time| ' (T A)
  "Insert current time as \"4:30 p.m.\"")
(|Military Time| ' (T E)
  "Insert current time as \"16:30\"")
(|Update| T "Convert to current date/time"))
```

(DEFINEQ

(MAKE.DATEOBJ.IMAGEFNS

```
(LAMBDA NIL
  (IMAGEFNSCREATE (FUNCTION DATE.DISPLAYFN)
    (FUNCTION DATE.IMAGEBOXFN)
    (FUNCTION DATE.PUTFN)
    (FUNCTION DATE.GETFN)
    (FUNCTION DATE.COPYFN)
    (FUNCTION DATE.BUTTONEVENTINFN)
    (FUNCTION NIL)
    (FUNCTION NIL)
    (FUNCTION NIL)
    (FUNCTION NIL)
    (FUNCTION NIL)
    (FUNCTION NIL)
    (FUNCTION NIL)
    (FUNCTION NIL))))
```

; Edited 17-Mar-2022 23:03 by rmk

```
(RPAQ? \DATEOBJ.IMAGEFNS (MAKE.DATEOBJ.IMAGEFNS))
```

```
(ADDTOVAR IMAGEOBJGETFNS (DATE.GETFN))
```

```
(DECLARE\ :DOEVAL@COMPILE DONTCOPY
```

```
{MEDLEY}<lispusers>tmax>TMAX-DATE.;1
```

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```
(DECLARE\ : EVAL@COMPILE
```

```
(RECORD DATERECORD (DATESTRING DISPLAY.DATE TEMPLATE.DATE))  
)  
)
```

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