

File created: 10-Oct-86 13:07:26 {DSK}<LISPPFILES>DATEFNS.;1

changes to: (FNS MAKE.DATE)

previous date: 4-May-84 18:46:07 {DANTE}<LISPNEW>LISPPUSERS>DATEFNS.;1

Read Table: OLD-INTERLISP-FILE

Package: INTERLISP

Format: XCCS

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(RPAQQ DATEFNCOMS

```
((FNS BUILDCALENDAR CALRBTOTFN CENTERBLTINREGION DITEMENU DAY DAYOFWEEK DAYSIN DRAWCALENDAR
FOLLOWING.MONTH LEAPYEAR MAKE.DATE PREVIOUS.MONTH XYTODATE \CALBOXITEM \CALINVERTITEM)
(VARS LISTOFDAYS MONTH.LIST)
(VARS (CALBORDER 3)
(CALGRIDBORDER 1))
[VARS (MONTHNAMEFONT (FONTCREATE (QUOTE GACHA)
12))
(OTHERMONTHFONT (FONTCREATE (QUOTE GACHA)
8))
(DAYNAMEFONT (FONTCREATE (QUOTE GACHA)
10))
(DAYNUMBERFONT (FONTCREATE (QUOTE GACHA)
12
(QUOTE BOLD]
(DECLARE: DONTCOPY (RECORDS CALENDARINFO)))
```

(DEFINEQ

(BUILDCALENDAR

```
[LAMBDA (MON YEAR CALENDARW) (* rrb "3-May-84 12:41")
(PROG ([YEAR (OR YEAR (MKATOM (SUBSTRING (DATE)
8 9]
(MON (OR MON (SUBSTRING (DATE)
4 6)))
DAYSIN FIRSTDAY WEEKROWS CALWIDTH CALHEIGHT CALWIDTH CALWHEIGHT DAYWIDTH DAYHEIGHT OTHERMONWIDTH
OTHERMONHEIGHT)
(SETQ MON (MKATOM (U-CASE MON)))
MONLP
(COND
((MEMB MON MONTH.LIST)
((IGREATERP (NCHARS MON)
3)
(SETQ MON (MKATOM (SUBSTRING MON 1 3)))
(GO MONLP))
(T (ERROR MON "not recognized as a month. Should be 3 letter abbrev.)))
(SETQ DAYSIN (DAYOFWEEK (DATE (CONCAT "01-" MON "-" YEAR " 12:00:00"))
(SETQ WEEKROWS (COND
((IGREATERP (IPLUS DAYSIN FIRSTDAY)
35)
6)
((IGREATERP (IPLUS DAYSIN FIRSTDAY)
28)
5)
(T 4)))
[SETQ CALWIDTH (IPLUS (IMAX (ITIMES (IPLUS (ITIMES 2 (IPLUS CALGRIDBORDER 1))
(IMAX (STRINGWIDTH "Su" DAYNAMEFONT)
(STRINGWIDTH "28" DAYNUMBERFONT)))
7)
(IPLUS [ITIMES 2 (SETQ OTHERMONWIDTH (IPLUS 4 (STRINGWIDTH "MAY"
OTHERMONTHFONT]
(STRINGWIDTH " MAR 84 " MONTHNAMEFONT]
(SETQ CALWWIDTH (WIDTHIFWINDOW CALWIDTH CALBORDER))
(SETQ CALHEIGHT (IPLUS (IPLUS 2 (IMAX (SETQ OTHERMONHEIGHT (IPLUS 2 (FONTHEIGHT OTHERMONTHFONT))
(FONTHEIGHT MONTHNAMEFONT)))
(IPLUS 2 (FONTHEIGHT DAYNAMEFONT))
(ITIMES (SETQ DAYHEIGHT (IPLUS CALGRIDBORDER 2 (FONTHEIGHT DAYNUMBERFONT)))
WEEKROWS))
(SETQ CALWHEIGHT (HEIGHTIFWINDOW CALHEIGHT NIL CALBORDER))
[COND
[(WINDOWP CALENDARW)
(PROG [(CURRENTREG (WINDOWPROP CALENDARW (QUOTE REGION)
(CLEARW CALENDARW)
(WINDOWPROP CALENDARW (QUOTE RESHAPEFN)
NIL)
(COND
((NEQ (fetch (REGION HEIGHT) of CURRENTREG)
CALWHEIGHT) (* do reshape so that upper part of window remains fixed.)
(WINDOWPROP CALENDARW (QUOTE REGION)
(CREATEREGION (fetch (REGION LEFT) of CURRENTREG)
(IDIFFERENCE (fetch (REGION BOTTOM) of CURRENTREG)
(IDIFFERENCE CALWHEIGHT (fetch (REGION HEIGHT) of CURRENTREG)))
```

```

(CALWWIDTH CALWHEIGHT]
(T (SETQ CALENDARW (CREATEW (MAKEWITHINREGION (CREATEREGION LASTMOUSEX LASTMOUSEY CALWWIDTH
CALWHEIGHT))
NIL CALBORDER NIL]
(WINDOWPROP CALENDARW (QUOTE BUTONEVENTFN)
(FUNCTION CALRBUTTONFN))
(WINDOWPROP CALENDARW (QUOTE CURSORINFN)
(FUNCTION CALRBUTTONFN))
(WINDOWPROP CALENDARW (QUOTE CURSORMOVEDFN)
(FUNCTION CALRBUTTONFN))
(WINDOWPROP CALENDARW (QUOTE RESHAPEFN)
(QUOTE DON'T))
(WINDOWPROP CALENDARW (QUOTE CALENDARINFO)
(create CALENDARINFO
MONTH _ MON
YEAR _ YEAR
#DAYS _ DAYSIN
DAYOFFIRST _ FIRSTDAY
WEEKROWS _ WEEKROWS)
DAYSIN)
(WINDOWPROP CALENDARW (QUOTE CALGRIDSPEC)
(create REGION
LEFT _ (IQUOTIENT [IDIFFERENCE CALWIDTH (ITIMES 7 (SETQ DAYWIDTH (IQUOTIENT CALWIDTH 7)
2)
BOTTOM _ 0
WIDTH _ DAYWIDTH
HEIGHT _ DAYHEIGHT))
(WINDOWPROP CALENDARW (QUOTE OTHERMONTHREGIONS)
(LIST (create REGION
LEFT _ 0
BOTTOM _ (IDIFFERENCE CALHEIGHT OTHERMONHEIGHT)
WIDTH _ OTHERMONWIDTH
HEIGHT _ OTHERMONHEIGHT)
(create REGION
LEFT _ (IDIFFERENCE CALWIDTH OTHERMONWIDTH)
BOTTOM _ (IDIFFERENCE CALHEIGHT OTHERMONHEIGHT)
WIDTH _ OTHERMONWIDTH
HEIGHT _ OTHERMONHEIGHT)))
(DRAWCALENDAR CALENDARW)
(RETURN CALENDARW])

```

(CALRBUTTONFN

[LAMBDA (CALENDARW)

(* rrb " 2-May-84 19:51")
(* buttoneventfn for calendar menus)

```

(PROG ((CALINFO (WINDOWPROP CALENDARW (QUOTE CALENDARINFO)))
(OTHERMONTHREGIONS (WINDOWPROP CALENDARW (QUOTE OTHERMONTHREGIONS)))
(MGRIDSPEC (WINDOWPROP CALENDARW (QUOTE CALGRIDSPEC)))
(LASTBUTTONSTATE LASTMOUSEBUTTONS)
(MAXXBOX 7)
OLDBOXX OLDBOXY BOXX BOXY DSPX DSPY MAXYBOX MOUSEDOWN ITEM YEAR MONTH)
(SETQ MONTH (fetch (CALENDARINFO MONTH) of CALINFO))
(SETQ YEAR (fetch (CALENDARINFO YEAR) of CALINFO))
(SETQ MAXYBOX (fetch (CALENDARINFO WEEKROWS) of CALINFO))
[RETURN (until (COND
(MOUSEDOWN (* if mouse has been down, process it)
(MOUSESTATE UP))
((MOUSESTATE (NOT UP)) (* mouse hasn't been down but just went down.)
[COND
((LASTMOUSESTATE RIGHT)
(DOWINDOWCOM CALENDARW)
(SETQ MOUSEDOWN NIL))
(T (SETQ MOUSEDOWN T)
(COND
(OLDBOXX (* switch between boxing to flipping items.)
(\CALBOXITEM OLDBOXX OLDBOXY MGRIDSPEC CALENDARW)
(\CALINVERTITEM OLDBOXX OLDBOXY MGRIDSPEC CALENDARW]
NIL))
do [COND
[[OR (AND (STRICTLY/BETWEEN (SETQ BOXY (GRIDYCOORD (LASTMOUSEY CALENDARW)
MGRIDSPEC))
-1 MAXYBOX)
(STRICTLY/BETWEEN (SETQ BOXX (GRIDXCOORD (LASTMOUSEX CALENDARW)
MGRIDSPEC))
-1 MAXXBOX))
(SETQ BOXX (for REG in OTHERMONTHREGIONS when (INSIDE? REG (LASTMOUSEX CALENDARW)
(LASTMOUSEY CALENDARW))
do (RETURN REG] (* BOXX and BOXY hold the number of the box pointed at.)
(COND
((OR (NEQ BOXX OLDBOXX)
(NEQ BOXY OLDBOXY))
(* selected item has changed.)
(* uninvert old item if there was one.)
[COND
(OLDBOXX (COND
(MOUSEDOWN (\CALINVERTITEM OLDBOXX OLDBOXY MGRIDSPEC CALENDARW))
(T (\CALBOXITEM OLDBOXX OLDBOXY MGRIDSPEC CALENDARW]
(* invert new item)

```

```

(COND
  (MOUSEDOWN (\CALINVERTITEM BOXX BOXY MGRIDSPEC CALENDARW))
  (T (\CALBOXITEM BOXX BOXY MGRIDSPEC CALENDARW)))
(SETQ OLDBOXX BOXX)
(SETQ OLDBOXY BOXY)
(T
  (COND
    (OLDBOXX (COND
      (MOUSEDOWN (\CALINVERTITEM OLDBOXX OLDBOXY MGRIDSPEC CALENDARW))
      (T (\CALBOXITEM OLDBOXX OLDBOXY MGRIDSPEC CALENDARW))))
    (SETQ OLDBOXX)))
  (COND
    ((INSIDEP (WINDOWPROP CALENDARW (QUOTE REGION))
      LASTMOUSEX LASTMOUSEY) (* cursor is still inside the window, keep control.)
    NIL)
  (T (RETURN)
    (* turn off inverse image. and call whenunheldfn is necessary.))
  (COND
    (OLDBOXX (COND
      (MOUSEDOWN (\CALINVERTITEM OLDBOXX OLDBOXY MGRIDSPEC CALENDARW))
      (T (\CALBOXITEM OLDBOXX OLDBOXY MGRIDSPEC CALENDARW))))
    (CLOSEW CALENDARW)))
  (RETURN (COND
    ((REGIONP OLDBOXX) (* selected a month)
      [COND
        [(EQ OLDBOXX (CAR OTHERMONTHREGIONS))
          (COND
            ((EQ (SETQ MONTH (PREVIOUS.MONTH MONTH))
              (QUOTE DEC))
              (SETQ YEAR (SUB1 YEAR))
            (T (COND
              ((EQ (SETQ MONTH (FOLLOWING.MONTH MONTH))
                (QUOTE JAN))
              (SETQ YEAR (ADD1 YEAR))
            (BUILDCALENDAR MONTH YEAR CALENDARW))
            (OLDBOXX (WINDOWPROP CALENDARW (QUOTE VALUE))
              (MAKE.DATE (XYTODATE CALENDARW OLDBOXX OLDBOXY)
                MONTH YEAR)
              (* return selected date or bring up new calendar)
            ]))
    ]))
  ])
```

(CENTERBLTINREGION

```

[LAMBDA (BITMAP REGION STRM)
  (BITBLT BITMAP 0 0 STRM (IPLUS (fetch (REGION LEFT) of REGION)
    (IQUOTIENT (IDIFFERENCE (fetch (REGION WIDTH) of REGION)
      (BITMAPWIDTH BITMAP))
    2))
  (IPLUS (fetch (REGION BOTTOM) of REGION)
    (IQUOTIENT (IDIFFERENCE (fetch (REGION HEIGHT) of REGION)
      (fetch (BITMAP BITMAPHEIGHT) of BITMAP))
    2))
  NIL NIL (QUOTE INPUT)
  NIL NIL REGION])
  (* rrb " 1-May-84 14:18"
  * puts a bitmap centered in a region of a stream)
```

(DATEMENU

```

[LAMBDA (MON YEAR)
  (PROG ((CALMENUMW (BUILDCALENDAR MON YEAR)))
    (until (WINDOWPROP CALMENUMW (QUOTE VALUE)) do (TOTOPW CALMENUMW)
      (DISMISS 500))
  (RETURN (WINDOWPROP CALMENUMW (QUOTE VALUE)
    NIL]))
  (* rrb " 2-May-84 19:53"
  * puts up a calendar menu and reads a date from the user)
```

(DAY

```

[LAMBDA (STRDATE)
  (SELECTQ (DAYOFWEEK (IDATE STRDATE))
    (1 "MONDAY")
    (2 "TUESDAY")
    (3 "WEDNESDAY")
    (4 "THURSDAY")
    (5 "FRIDAY")
    (6 "SATURDAY")
    (0 "SUNDAY")
  (SHOULDNT]))
  (* rrb " 1-May-84 14:30")
```

(DAYOFWEEK

```

[LAMBDA (INTERNALDATE)
  (* Returns a number between 0 (Sunday) and 6 (Saturday) representing the day of the week which the given IDATE
  was/is/willbe)
  (* gbn "11-MAY-83 10:47")
```

```
(PROG ((UNITSSINCEBASE (IQUOTIENT (LRSH (LISP.TO.ALTO.DATE INTERNALDATE)
                                     1)
                                   30)))
      (* UNITSSINCEBASE represents the number of minutes since
      Jan 1,1901 GMT)

(* now, adjust for the time zone. Since this may make UNITSSINCEBASE go negative , add in one week of hours)

(SETQ UNITSSINCEBASE (IDIFFERENCE (IPLUS (IQUOTIENT UNITSSINCEBASE 60)
                                         (ITIMES 24 7))
                                  \TimeZoneComp))
      (* UNITSSINCEBASE now represents the number of hours
      since Genesis)

(RETURN (IREMAINDER (IPLUS 2 (IQUOTIENT UNITSSINCEBASE 24))
                7]))
```

(DAYSIN

```
[LAMBDA (MONTH YEAR)
  (SELECTQ (MKATOM MONTH)
    (FEB (COND
      ((LEAPYEARP YEAR)
        29)
      (T 28)))
    ((APR JUN SEP NOV)
      30)
    31])
      (* rrb "2-May-84 19:38")
```

(DRAWCALENDAR

```
[LAMBDA (CALENDARW)
  (* rrb "2-May-84 18:47")
  (* Adds the grid numbering and messages to calendar)

  (PROG ((CALENDARINFO (WINDOWPROP CALENDARW (QUOTE CALENDARINFO)))
        (CALGRIDSPEC (WINDOWPROP CALENDARW (QUOTE CALGRIDSPEC)))
        ROWS GRIDWIDTH GRIDHEIGHT BOTTOM MONTH)
    (CLEARW CALENDARW)
    (GRID CALGRIDSPEC 7 (SETQ ROWS (fetch (CALENDARINFO WEEKROWS) of CALENDARINFO))
      CALGRIDBORDER CALENDARW)
    (SETQ GRIDWIDTH (fetch WIDTH of CALGRIDSPEC))
    (SETQ GRIDHEIGHT (fetch HEIGHT of CALGRIDSPEC))
    (DSPFONT DAYNUMBERFONT CALENDARW)
    (for #DAYOFWEEK from (fetch (CALENDARINFO DAYOFFIRST) of CALENDARINFO) as DATE from 1
      to (fetch (CALENDARINFO #DAYS) of CALENDARINFO)
      do (CENTERPRINTINREGION DATE (create REGION
        BOTTOM _ (BOTTOMOFGRIDCOORD (SUB1 (IDIFFERENCE ROWS
          (IQUOTIENT #DAYOFWEEK 7)))
          CALGRIDSPEC)
        LEFT _ (LEFTOFGRIDCOORD (IREMAINDER #DAYOFWEEK 7)
          CALGRIDSPEC)
        WIDTH _ GRIDWIDTH
        HEIGHT _ GRIDHEIGHT)
      (* Now print the day headings in the top row of the calendar)

    (DSPFONT DAYNAMEFONT CALENDARW)
    (for CHAR in LISTOFDAYS as #DAYOFWEEK from 0 do (CENTERPRINTINREGION CHAR
      (create REGION
        BOTTOM _ (BOTTOMOFGRIDCOORD ROWS
          CALGRIDSPEC)
        LEFT _ (LEFTOFGRIDCOORD #DAYOFWEEK
          CALGRIDSPEC)
        WIDTH _ GRIDWIDTH
        HEIGHT _ GRIDHEIGHT)
      CALENDARW))
      (* put up the scroll bars for moving to previous and following
      months.)

    (DSPFONT OTHERMONTHFONT CALENDARW)
    (SETQ MONTH (fetch (CALENDARINFO MONTH) of CALENDARINFO))
    (for REGION in (WINDOWPROP CALENDARW (QUOTE OTHERMONTHREGIONS)) as NEARMONTH
      in (LIST (PREVIOUS.MONTH MONTH)
        (FOLLOWING.MONTH MONTH))
      do (DRAWAREABOX (fetch (REGION LEFT) of REGION)
        (fetch (REGION BOTTOM) of REGION)
        (fetch (REGION WIDTH) of REGION)
        (fetch (REGION HEIGHT) of REGION)
        1 NIL CALENDARW)
      (CENTERPRINTINREGION NEARMONTH REGION CALENDARW))
      (* put up month and year.)

    (DSPFONT MONTHNAMEFONT CALENDARW)
    (CENTERPRINTINREGION (CONCAT MONTH " " (fetch (CALENDARINFO YEAR) of CALENDARINFO))
      (create REGION
        LEFT _ (LEFTOFGRIDCOORD 0 CALGRIDSPEC)
        BOTTOM _ (SETQ BOTTOM (BOTTOMOFGRIDCOORD (ADD1 ROWS)
          CALGRIDSPEC))
        WIDTH _ (ITIMES 7 GRIDWIDTH)
        HEIGHT _ (IDIFFERENCE (WINDOWPROP CALENDARW (QUOTE HEIGHT))
          BOTTOM))
      CALENDARW]))
```



```

      (IDIFFERENCE HGHT 2)
      (QUOTE TEXTURE)
      (QUOTE INVERT)
      BLACKSHADE)
(BITBLT NIL NIL NIL DSP (IPLUS LFT 2)
 (IPLUS BTM 2)
 (IDIFFERENCE WID 4)
 (IDIFFERENCE HGHT 4)
 (QUOTE TEXTURE)
 (QUOTE INVERT)
 BLACKSHADE])

```

(\CALINVERTITEM

```

[LAMBDA (COLUMN ROW GRID DSP)
  (COND
    ((REGIONP COLUMN)
     (DSPFILL COLUMN BLACKSHADE (QUOTE INVERT)
              DSP))
    (T
     (SHADEGRIDBOX COLUMN ROW BLACKSHADE (QUOTE INVERT)
                   GRID CALGRIDBORDER DSP]))
)
```

(* rrb "2-May-84 18:37")
 (* inverts an item in a calendar displayed in DSP.)
 (* either the previous or next months.)
 (* must be part of calendar.)

```

(RPAQQ LISTOFDAYS ("Su" "M" "Tu" "W" "Th" "F" "Sa"))
(RPAQQ MONTH.LIST (JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC))
(RPAQQ CALBORDER 3)
(RPAQQ CALGRIDBORDER 1)
(RPAQ MONTHNAMEFONT (FONTCREATE (QUOTE GACHA)
                                 12))
(RPAQ OTHERMONTHFONT (FONTCREATE (QUOTE GACHA)
                                 8))
(RPAQ DAYNAMEFONT (FONTCREATE (QUOTE GACHA)
                              10))
(RPAQ DAYNUMBERFONT (FONTCREATE (QUOTE GACHA)
                                12
                                (QUOTE BOLD)))
(DECLARE: DONTCOPY
(DECLARE: EVAL@COMPILE
(RECORD CALENDARINFO (MONTH YEAR #DAYS DAYOFFIRST WEEKROWS))
)
)
(PUTPROPS DATEFNS COPYRIGHT ("Xerox Corporation" 1984 1986))

```

FUNCTION INDEX

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