



```

                                PRINTER)
                                "Sends hardcopy of selected
                                files to a printer of your
                                choosing"))
(|See| (FB.EDITCOMMAND READONLY)
  "Displays selected files one at a time in a separate window"
  (SUBITEMS ("Fast SEE Pretty" FB.FASTSEECOMMAND "Views file
    quickly, uses font information, no scrolling
    backwards")
    ("Fast SEE Unformatted" (FB.FASTSEECOMMAND T)
      "Views file quickly, shows raw characters, no
      scrolling backwards")
    ("Scrollable & Pretty" (FB.EDITCOMMAND READONLY)
      "Views file with font information in a fully
      scrollable window")
    ("FileBrowse" FB.BROWSECOMMAND "Recursively call
      FileBrowser on the selected subdirectory")))
(|Edit| FB.EDITCOMMAND "Calls an editor on the selected files (use
  submenu to specify editor)" (SUBITEMS ("TEdit" (FB.EDITCOMMAND
    TEDIT)
      "Calls TEdit (text
      editor) on selected
      files")
    ("Lisp Edit" (FB.EDITCOMMAND
      LISP)
      "Calls Lisp editor on
      selected files")))
(|Load| FB.LOADCOMMAND "LOADs selected files"
  (SUBITEMS ("IL:LOAD" FB.LOADCOMMAND "LOADs selected files")
    ("CL:LOAD" (FB.LOADCOMMAND CL:LOAD)
      "Performs CL:LOAD on selected files")
    ("Load PROP" (FB.LOADCOMMAND PROP)
      "Loads the selected files with LDFLG = PROP")
    ("Load SYSLOAD" (FB.LOADCOMMAND SYSLOAD)
      "System-loads the files (fast but not undoable)")
    (LOADFROM (FB.LOADCOMMAND LOADFROM)
      "Performs LOADFROM on selected files")
    (LOADCOMP (FB.LOADCOMMAND LOADCOMP)
      "Performs LOADCOMP on selected files")))
(|Compile| FB.COMPILECOMMAND "Compiles selected LISP source files using
  default compiler" (SUBITEMS (TCOMPL (FB.COMPILECOMMAND TCOMPL)
    "Calls TCOMPL on selected
    files")
    (BCOMPL (FB.COMPILECOMMAND BCOMPL)
      "Calls BCOMPL on selected
      files")
    (COMPILE-FILE (FB.COMPILECOMMAND
      CL:COMPILE-FILE)
      "COMPILE-FILE's selected files")
    ))
(|Expunge| FB.EXPUNGECOMMAND "Permanently removes from the file system
  all files marked for deletion")
(|Recompute| FB.UPDATECOMMAND "Recomputes set of files satisfying
  selection pattern" (SUBITEMS ("Same Pattern" FB.UPDATECOMMAND
    "Recomputes set of files
    satisfying current pattern")
    ("New Pattern" FB.NEWPATTERNCOMMAND
      "Prompts for a new selection
      pattern and updates browser")
    ("New Info" FB.NEWINFOCOMMAND
      "Change the set of file
      attributes that are displayed")
    ("Set Depth" FB.DEPTHCOMMAND
      "Change the depth to which
      future Recomputes will
      enumerate the directory (NS
      servers only)")
    ("Shape to Fit" FB.SHAPECOMMAND
      "Widen or narrow the browser so
      that all information is
      visible")
    ("Fix directory dates"
      FB.FIX-DIRECTORY-DATES
      "Ensure that directory dates
      match FILECREATED dates")))
(|Sort| FB.SORTCOMMAND "Sorts all the files in the browser by the
  attribute of your choice")))
(VARS FB.VERSION.MENU.ITEMS FB.CLOSE.MENU.ITEMS FB.DEPTH.MENU.ITEMS
  FB.INFO.MENU.ITEMS
  FB.DEFAULT.NAME.WIDTH FB.INFO.FIELDS FB.INFOSHADE FB.ITEMUNSELECTEDSHADE
  FB.ITEMSELECTEDSHADE)
(COMS ; Entries
  (COMMANDS "fb")
  (FNS FB FB.COPYBINARYCOMMAND FB.COPYTEXTCOMMAND FILEBROWSER FB.TABLEBROWSER FB.SELECTEDFILES
    FB.FETCHFILENAME FB.DIRECTORYP FB.PROMPTWPRINT FB.PROMPTW.FORMAT FB.PROMPTFORINPUT
    FB.YES-OR-NO-P FB.ALLOW.ABORT \\FB.HARDCOPY.TOFILE.EXTENSION)
  ; Setup
  (FNS FB.STARTUP FB.MAKERIGIDWINDOW)

```

```

(FNS FB.PRINTFN FB.COPYFN)
(COMS ; commands and major subfunctions
(FNS FB.MENU.WHENSELECTEDFN FB.COMMANDSELECTEDFN FB.SUBITEM FB.MAKE.BROWSER.BUSY
FB.FINISH.COMMAND FB.HANDLE.ABORT.BUTTON)
(FNS FB.DELETECOMMAND FB.DELVERCOMMAND FB.IS.NOT.SUBDIRECTORY.ITEM FB.DELVER.FILES FB.DELETE.FILE)
(FNS FB.UNDELETECOMMAND FB.UNDELETEALLCOMMAND FB.UNDELETE.FILE)
(FNS FB.COPYCOMMAND FB.RENAMECOMMAND FB.COPY/RENAME.COMMAND FB.COPY/RENAME.ONE FB.COPY/RENAME.MANY
FB.MERGE.DIRECTORIES FB.GREATEST.PREFIX FB.MAYBE.INSERT.FILE FB.GET.NEW.FILE.SPEC
FB.CANONICAL.DIRECTORY)
(FNS FB.HARDCOPYCOMMAND FB.HARDCOPY.TOFILE)
(FNS FB.EDITCOMMAND FB.EDITCOMMAND.ONEFILE FB.EDITLISPFIL FB.BROWSECOMMAND)
(FNS FB.FASTSEECOMMAND FB.FASTSEE.ONEFILE FB.SEEFULLFN FB.SEEBUTTONFN)
(FNS FB.LOADCOMMAND FB.COMPILECOMMAND FB.OPERATE.ON.FILES)
(FNS FB.UPDATECOMMAND FB.FIX-DIRECTORY-DATES FB.MAYBE.EXPUNGE FB.UPDATEBROWSERITEMS FB.DATE
FB.AJUST.DATE.WIDTH FB.SET.BROWSER.TITLE FB.MAYBE.WIDEN.NAMES FB.SET.DEFAULT.NAME.WIDTH
FB.CREATE.FILEBUCKET FB.CHECK.NAME.LENGTH FB.ADD.FILEGROUP FB.INSERT.DIRECTORY
FB.MAKE.SUBDIRECTORY.ITEM FB.ADD.FILE FB.INSERT.FILE FB.ANALYZE.PATTERN
FB.CANONICALIZE.PATTERN FB.GETALLFILEINFO)
(FNS FB.SORT.VERSIONS FB.DECREASING.VERSION FB.INCREASING.VERSION FB.NAMES.DECREASING.VERSION
FB.NAMES.INCREASING.VERSION FB.DECREASING.NUMERIC.ATTR FB.INCREASING.NUMERIC.ATTR
FB.ALPHABETIC.ATTR)
(FNS FB.SORTCOMMAND FB.INSERT.SUBDIRECTORIES FB.GET.SORT.MENU)
(FNS FB.EXPUNGECOMMAND FB.NEWPATTERNCOMMAND FB.NEWINFOCOMMAND FB.DEPTHCOMMAND FB.SHAPECOMMAND
FB.REMOVE.FILE FB.COUNT.FILE.CHANGE FB.SETNEWPATTERN FB.GET.NEW.PATTERN FB.OPTIONSCOMMAND))
(COMS ; window functions
(FNS FB.GETWINDOW)
(FNS FB.INFOMENU.SHADEINITIALSELECTIONS FB.INFO.ITEM.NAMED)
(FNS FB.MAKECOUNTERWINDOW FB.COUNTERW.REDISPLAYFN FB.UPDATE.COUNTERS FB.DISPLAY.COUNTERS
FB.COUNTER.STRING)
(FNS FB.MAKEHEADINGWINDOW FB.HEADINGW.REDISPLAYFN FB.HEADINGW.RESHAPEFN FB.HEADINGW.DISPLAY)
(FNS FB.ICONFN FB.INFOMENU.WHENSELECTEDFN FB.CLOSEFN FB.EXPUNGE?.MENU FB.AFTERCLOSEFN
FB.CLOSE&EXPUNGE)
(FNS FB.HARDCOPY.DIRECTORY FB.HARDCOPY.PRINT.TITLE FB.HARDCOPY.MAXWIDTH))
(DECLARE\ : EVAL@COMPILE DONTCOPY (FILES (LOADCOMP
TABLEBROWSER)
(RECORDS INFOFIELD FBFILEDATA FILEBROWSER)
(CONSTANTS FB.MORE.BORDER FB.NULL.VERSION)
(MACROS NULL.VERSIONP NULL.DIRECTORYP EQ.DIRECTORYP NULL.FIELDP)
(GLOBALVARS FB.ICONFONT FB.BROWSERFONT FB.PROMPTFONT FB.MENUFONT FB.HARDCOPY.FONT
FB.HARDCOPY.DIRECTORY.FONT FB.EXPUNGE?.MENU FB.CLOSE.MENU.ITEMS FB.DEPTH.MENU.ITEMS
FB.MENU.ITEMS FB.DEFAULT.INFO FB.INFOSHADE FB.INFO.MENU.ITEMS FB.ITEMUNSELECTEDSHADE
FB.ITEMSELECTEDSHADE DIRCOMMANDS FB.PROMPTLINES FB.INFO.FIELDS |WindowTitleDisplayStream|
FB.ICONSPEC FB.DEFAULT.NAME.WIDTH FB.OVERFLOW.MAXABSOLUTE FB.OVERFLOW.MAXFRAC
FB.DEFAULT.EDITOR FB.BROWSER.DIRECTORY.FONT ITALICFONT PRINTFILETYPES)
(LOCALVARS . T))
(INITRECORDS FILEBROWSER FBFILEDATA)
(SYSRECORDS FILEBROWSER FBFILEDATA)
(DECLARE\ : DONTEVAL@LOAD DOCOPY (P (MOVD? 'PROMPTFORWARD 'TTYINPROMPTFORWARD NIL T))
(ADDVARS (*ATTACHED-WINDOW-COMMAND-SYNONYMS* (HARDCOPYIMAGEW.TOFILE . HARDCOPYIMAGEW)
(HARDCOPYIMAGEW.TOPRINTER . HARDCOPYIMAGEW)
(|BackgroundMenuCommands| ("FileBrowser" '(FILEBROWSER)
"Opens a filebrowser window; prompts for pattern")))
(VARS (|BackgroundMenu|)))
(DECLARE\ : DONTEVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILERVARS (ADDVARS (NLAMA FB)
(NLAML)
(LAMA FB.PROMPTW.FORMAT
FB.PROMPTWPRINT))))

```

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

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

```
(FILESLOAD ATTACHEDWINDOW ICONW TABLEBROWSER)
```

:: Set up for MODERNIZE windows, whether or not MODERNIZE is pre-loaded

```
(MOVD? 'NIL 'TOTOPW.MODERNIZE)
```

:: JDS 11/94 FB.ICONSPEC is now an INITVAR so we can create smaller ones in profiles for, e.g., laptops.

```
(DECLARE\ : DONTCOPY DOCOPY
```

```
(RPAQ? FB.ICONSPEC ' (
```



```
NIL (5 5 73 40)))
```

```
(RPAQ? FB.EXPUNGE?.MENU )
```

```
(RPAQ? FB.BROWSERFONT DEFAULTFONT)
(RPAQ? FB.BROWSER.DIRECTORY.FONT BOLDFONT)
(RPAQ? FB.PROMPTFONT LITTLEFONT)
(RPAQ? FB.HARDCOPY.FONT )
(RPAQ? FB.HARDCOPY.DIRECTORY.FONT )
(RPAQ? FB.PROMPTLINES 3)
(RPAQ? FB.MENUFONT MENUFONT)
(RPAQ? FB.OVERFLOW.MAXABSOLUTE 30)
(RPAQ? FB.OVERFLOW.MAXFRAC 0.06)
(RPAQ? FB.DEFAULT.EDITOR 'TEDIT)
(RPAQ? FB.DEFAULT.INFO ' (SIZE CREATIONDATE AUTHOR))
(RPAQ? FB.SEE.METHODS )

(APPENDTOVAR FONTVARS (FB.ICONFONT LITTLEFONT)
 (FB.BROWSERFONT DEFAULTFONT)
 (FB.PROMPTFONT LITTLEFONT)
 (FB.BROWSER.DIRECTORY.FONT BOLDFONT))
```

;; FONTSET fills in the variables in FONTVARS for us, so do it.

```
(FONTSET (FONTSET))

(ADDTOVAR CACHEDMENUS FB.EXPUNGE?MENU)

(RPAQ? FB.MENU.ITEMS
 '( (|Delete| FB.DELETECOMMAND "Marks selected files for deletion.
      (Use EXPUNGE to remove files from system)" (SUBITEMS ("Delete Selected Files" FB.DELETECOMMAND
        "Marks the selected files for
        deletion.")
        ("Delete Old Versions" FB.DELVERCOMMAND
        "Marks for deletion old versions of
        all files in the browser.
        You specify how many versions to
        keep.")))
    (|Undelete| FB.UNDELETECOMMAND "Removes deletion mark for selected files" (SUBITEMS ("Undelete ALL
        Files"
        FB.UNDELETEALLCOMMAND
        "Removes
        deletion
        mark from
        all files in
        the
        browser"))))
    (|Copy| FB.COPYCOMMAND "Copies selected files (prompts for new file name/directory)"
      (SUBITEMS ("Copy using TEXT FileType" FB.COPYTEXTCOMMAND "Forces the copying of selected files
        to be done as TEXT-files")
        ("Copy using BINARY FileType" FB.COPYBINARYCOMMAND "Forces the copying of selected files
        to be done as BINARY-files")))
    (|Rename| FB.RENAMECOMMAND "Renames (moves) selected files (prompts for new name/directory)")
    (|Hardcopy| FB.HARDCOPYCOMMAND "Produces hardcopy of selected files on your default printer"
      (SUBITEMS ("To a file" (FB.HARDCOPYCOMMAND FILE)
        "Generates a hardcopy master of selected file; prompts for filename and
        format")
        ("To a printer" (FB.HARDCOPYCOMMAND PRINTER)
        "Sends hardcopy of selected files to a printer of your choosing")))
    (|See| (FB.EDITCOMMAND READONLY)
      "Displays selected files one at a time in a separate window"
      (SUBITEMS ("Fast SEE Pretty" FB.FASTSEECOMMAND "Views file quickly, uses font information, no
        scrolling backwards")
        ("Fast SEE Unformatted" (FB.FASTSEECOMMAND T)
        "Views file quickly, shows raw characters, no scrolling backwards")
        ("Scrollable & Pretty" (FB.EDITCOMMAND READONLY)
        "Views file with font information in a fully scrollable window")
        ("FileBrowse" FB.BROWSECOMMAND "Recursively call FileBrowser on the selected
        subdirectory")))
    (|Edit| FB.EDITCOMMAND "Calls an editor on the selected files (use submenu to specify editor)"
      (SUBITEMS ("Tedit" (FB.EDITCOMMAND TEDIT)
        "Calls Tedit (text editor) on selected files")
        ("Lisp Edit" (FB.EDITCOMMAND LISP)
        "Calls Lisp editor on selected files")))
    (|Load| FB.LOADCOMMAND "LOADS selected files" (SUBITEMS ("IL:LOAD" FB.LOADCOMMAND "LOADs selected
        files")
        ("CL:LOAD" (FB.LOADCOMMAND CL:LOAD)
        "Performs CL:LOAD on selected files")
        ("Load PROP" (FB.LOADCOMMAND PROP)
```

```

"Loads the selected files with LDFLG =
PROP")
("Load SYSLOAD" (FB.LOADCOMMAND SYSLOAD)
"System-loads the files (fast but not
undoable)")
(LOADFROM (FB.LOADCOMMAND LOADFROM)
"Performs LOADFROM on selected files")
(LOADCOMP (FB.LOADCOMMAND LOADCOMP)
"Performs LOADCOMP on selected files"))))
(|Compile| FB.COMPILECOMMAND "Compiles selected LISP source files using default compiler"
(SUBITEMS (TCOMPL (FB.COMPILECOMMAND TCOMPL)
"Calls TCOMPL on selected files")
(BCOMPL (FB.COMPILECOMMAND BCOMPL)
"Calls BCOMPL on selected files")
(COMPFILE-FILE (FB.COMPILECOMMAND CL:COMPFILE-FILE)
"COMPFILE-FILE's selected files"))))
(|Expunge| FB.EXPUNGECOMMAND "Permanently removes from the file system all files marked for deletion")
(|Recompute| FB.UPDATECOMMAND "Recomputes set of files satisfying selection pattern"
(SUBITEMS ("Same Pattern" FB.UPDATECOMMAND "Recomputes set of files satisfying current pattern"
("New Pattern" FB.NEWPATTERNCOMMAND "Prompts for a new selection pattern and updates
browser")
("New Info" FB.NEWINFOCOMMAND "Change the set of file attributes that are displayed")
("Set Depth" FB.DEPTHCOMMAND "Change the depth to which future Recomputes will enumerate
the directory (NS servers only)")
("Shape to Fit" FB.SHAPECOMMAND "Widen or narrow the browser so that all information is
visible")
("Fix directory dates" FB.FIX-DIRECTORY-DATES "Ensure that directory dates match
FILECREATED dates"))))
(|Sort| FB.SORTCOMMAND "Sorts all the files in the browser by the attribute of your choice"))))
(RPAQQ FB.VERSION.MENU.ITEMS (("1" 1 "Keep only one version of the files")
("2" 2 "Keep two versions of the files")
("3" 3 "Keep three versions of the files")
("4" 4 "Keep four versions of the files")
("Other" :NUMBER "Select number of versions to keep")))
(RPAQQ FB.CLOSE.MENU.ITEMS (("Expunge deleted files" 'EXPUNGE "Erases all files still marked 'deleted' ")
("Don't expunge" 'NOEXPUNGE "Proceeds (closes or updates browser) without expunging
deleted files.
Your deletions are thus ignored.")))
(RPAQQ FB.DEPTH.MENU.ITEMS (("Global default" :GLOBAL "Set depth using the global default
(FILING.ENUMERATION.DEPTH)")
("Infinite" T "Set depth to infinity, i.e., enumerate all levels of directory")
("1" 1 "Set depth to 1, i.e., enumerate just the top level of the directory")
("2" 2 "Set depth to 2")
("Other" :NUMBER "Set depth to some other finite depth")))
(RPAQQ FB.INFO.MENU.ITEMS
((|Length| LENGTH "Toggles Length display")
(|ByteSize| BYTESIZE "Toggles ByteSize display")
(|Pages| SIZE "Toggles Pages display")
(|Type| TYPE "Toggles Type display")
(|Created| CREATIONDATE "Toggles Created display")
(|Written| WRITEDATE "Toggles Written display")
(|Read| READDATE "Toggles Read display")
(|Author| AUTHOR "Toggles Author display")))
(RPAQQ FB.DEFAULT.NAME.WIDTH 140)
(RPAQQ FB.INFO.FIELDS
((LENGTH "Length" 70 (FIX 56)
"99999999")
(SIZE "Pages" 50 (FIX 35)
"99999")
(BYTESIZE "Byt" 28 (FIX 14)
"99")
(TYPE "Type" 55 NIL "INTERPRESS")
(CREATIONDATE "Created" 170 DATE)
(READDATE "Read" 170 DATE)
(WRITEDATE "Written" 170 DATE)
(AUTHOR "Author" 120)))
(RPAQQ FB.INFOSHADE 32800)
(RPAQQ FB.ITEMUNSELECTEDSHADE 0)
(RPAQQ FB.ITEMSELECTEDSHADE 4672)

```

:: Entries

```
(DEFCOMMAND "fb" (&REST PAT&PROPS) (APPLY 'FB PAT&PROPS))
```

```
(DEFINEQ
```

**(FB**

(NLAMBDA PATTERN

; Edited 29-Oct-2021 21:18 by rmk;  
; Edited 26-Feb-88 13:50 by bvm

;;; FILEBROWSER entry from top-level exec: FB PATTERN ... PROPS ...

```
(DESTRUCTURING-BIND (PAT . PROPS)
  (NLAMBDA.ARGS PATTERN)
  (LET (OPTIONS)
    (|for| TAIL |on| PROPS |when| (AND (CL:KEYWORDP (CAR TAIL))
                                       (CDR TAIL))
      |do| (RETURN (SETQ PROPS (LDIFF PROPS (SETQ OPTIONS TAIL))))); Interpret keyword tail of attributes as OPTIONS.
    (ADD.PROCESS ` (, (FUNCTION FILEBROWSER)
                    ', (OR PAT '*))
                ', PROPS
                ', OPTIONS)
    'NAME
    'FB)))
NIL))
```

**(FB.COPYBINARYCOMMAND**

```
(LAMBDA (BROWSER) ; Edited 19-Oct-90 18:18 by gadener
  (FB.COPY/RENAME.COMMAND BROWSER ' |Copy| (CONS (FUNCTION COPYFILE)
                                                  ' ((TYPE BINARY))))))
```

**(FB.COPYTEXTCOMMAND**

```
(LAMBDA (BROWSER) ; Edited 19-Oct-90 18:55 by gadener
  (FB.COPY/RENAME.COMMAND BROWSER ' |Copy| (CONS (FUNCTION COPYFILE)
                                                  ' ((TYPE TEXT))))))
```

**(FILEBROWSER**

```
(LAMBDA (FILESPEC ATTRIBUTES OPTIONS) ; Edited 30-Aug-94 19:45 by jds
  (PROG ((TITLEFONT (DSPFONT NIL |WindowTitleDisplayStream|))
        (BROWSERFONTHEIGHT (FONTPROP FB.BROWSERFONT 'HEIGHT))
        (MENU-ITEMS FB.MENU.ITEMS)
        (MENU-TITLE "FB Commands")
        BROWSER PROMPTWEIGHT COUNTERHEIGHT BROWSERWINDOW BROWSERWIDTH COMMANDMENU COMMANDMENUWIDTH
        COMMANDMENUWINDOW HEADINGWINDOW REGION TITLE DEPTH)
    (COND
      ((AND (LISTP OPTIONS)
            (SMALLP (CAR OPTIONS))
            (AND (EQLENGTH OPTIONS 4)
                 (EVERY OPTIONS (FUNCTION NUMBERP)))) ; Old style
        (SETQ REGION OPTIONS)
        (SETQ OPTIONS))
      (T (|for| TAIL |on| OPTIONS |by| (CDDR TAIL)
        |do| (PROG ((KEY (CAR TAIL))
                   (VALUE (CADR TAIL)))
          RETRY
            (SELECTQ KEY
              (:REGION (SETQ REGION VALUE))
              (:TITLE (SETQ TITLE VALUE))
              ((:MENU-TITLE MENU.TITLE)
               (SETQ MENU-TITLE VALUE))
              ((:MENU-ITEMS MENU.ITEMS)
               (SETQ MENU-ITEMS VALUE))
              (:DEPTH (SETQ DEPTH VALUE))
              (|if| (AND (NOT (CL:KEYWORDP KEY))
                        (SETQ KEY (CL:FIND-SYMBOL (STRING KEY)
                                                  *KEYWORD-PACKAGE*)))
                |then| ; for backward compatibility, coerce other symbols to keywords
                  (GO RETRY))))))
        (SETQ ATTRIBUTES (COND
          (ATTRIBUTES ; Caller specifies which attributes to use
            (|for| X |in| ATTRIBUTES
              |collect| (OR (CADR (FB.INFO.ITEM.NAMED X FB.INFO.MENU.ITEMS))
                          (AND (LISTP DIRCOMMANDS)
                               (OR (|for| PAIR |in| DIRCOMMANDS
                                   |when| (AND (LISTP PAIR)
                                             (STRING-EQUAL X (CAR PAIR)))
                                   |do| ; Found synonym in dircommands. This also takes care of
                                       ; attribute being in different packages
                                       (RETURN (CDR PAIR)))
                          (PROGN ; Try spelling correction. Wanted to get synonyms this way, but
                                  ; MISSPELLED? seems to be package-sensitive.
                                  (MISSPELLED? X 90 DIRCOMMANDS))))
              (\\ILLEGAL.ARG X))))
          (T FB.DEFAULT.INFO)))
        (PROGN ; Figure out the size of the fixed pieces before prompting for a
          ; region
          (SETQ COMMANDMENU
            (|create| MENU
              MENUFONT _ FB.MENUFONT
              ITEMS _ MENU-ITEMS
```

```

        CENTERFLG _ T
        MENUCOLUMNS _ 1
        WHENSELECTEDFN _ (FUNCTION FB.MENU.WHENSELECTEDFN)
        TITLE _ MENU-TITLE))
    (SETQ COMMANDMENUWIDTH (|fetch| (MENU IMAGEWIDTH) |of| COMMANDMENU))
    (SETQ PROMPTWHEIGHT (HEIGHTIFWINDOW (TIMES FB.PROMPTLINES (FONTPROP FB.PROMPTFONT 'HEIGHT))))
    (SETQ COUNTERHEIGHT (HEIGHTIFWINDOW (FONTPROP TITLEFONT 'HEIGHT)
        T)))
    (PROGN ;; First make the main window, carved out of the space in REGION leftover after the fixed parts are accounted for
        (COND
            ((NOT REGION)
                (PROMPTPRINT (CL:FORMAT NIL "Specify region for FileBrowser~@[ on ~A~]" FILESPEC))
                (SETQ REGION (GETREGION (PROGN
                    (PROGN
                        (+ COMMANDMENUWIDTH FB.DEFAULT.NAME.WIDTH TB.LEFT.MARGIN))
                        (+ PROMPTWHEIGHT COUNTERHEIGHT (TIMES 6 BROWSERFONTHEIGHT))))
                    (CLRSPROMPT)))
                (|if| (AND (NULL FILESPEC)
                    (NOT (TTY.PROCESSP)))
                    |then|
                        (TTY.PROCESS (THIS.PROCESS))
                        (ALLOW.BUTTON.EVENTS))
                    ; Grab the tty now, so that user can start typing ahead
                (SETQ BROWSERWINDOW (CREATEW (|create| REGION |using| REGION WIDTH _ (SETQ BROWSERWIDTH
                    (- (|fetch| (REGION WIDTH)
                        |of| REGION)
                    COMMANDMENUWIDTH))
                    HEIGHT _ (- (|fetch| (REGION HEIGHT)
                        |of| REGION)
                    (+ COUNTERHEIGHT PROMPTWHEIGHT
                        BROWSERFONTHEIGHT))))
                (DSPFONT FB.BROWSERFONT BROWSERWINDOW)
                (WINDOWPROP BROWSERWINDOW 'FILEBROWSER (SETQ BROWSER
                    (|create| FILEBROWSER
                        BROWSERWINDOW _ BROWSERWINDOW
                        BROWSERFONT _ FB.BROWSERFONT
                        OVERFLOWSPACING _ (TIMES 3 (CHARWIDTH
                            (CHARCODE \a)
                            FB.BROWSERFONT))
                        SORTBY _ (FUNCTION FB.NAMES.DECREASING.VERSION)
                        FIXEDTITLE _ TITLE
                        INFOMENUCHOICES _ ATTRIBUTES
                        FBLOCK _ (CREATE.MONITORLOCK)
                        FBDEPTH _ DEPTH)))
                    ; Atop this sits the black heading window, with labels for each
                    ; column in browser
                (|replace| (FILEBROWSER HEADINGWINDOW) |of| BROWSER |with| (SETQ HEADINGWINDOW
                    (|create| (FB.MAKEHEADINGWINDOW BROWSERWINDOW
                        BROWSERWIDTH BROWSERFONTHEIGHT
                        FB.BROWSERFONT))))
                    ; Atop that is the counter window, whose title contains the file
                    ; pattern
                (|create| (FB.MAKECOUNTERWINDOW BROWSERWINDOW TITLEFONT BROWSERWIDTH COUNTERHEIGHT TITLE))
                    ; Main command menu sits on the right side
                (SETQ COMMANDMENUWINDOW (MENUWINDOW COMMANDMENU))
                (ATTACHWINDOW COMMANDMENUWINDOW BROWSERWINDOW 'RIGHT 'TOP))
                    ; Finally the prompt window atop it all
                (|replace| (FILEBROWSER PROMPTWINDOW) |of| BROWSER |with| (|create| (FB.MAKERIGIDWINDOW (GETPROMPTWINDOW
                    BROWSERWINDOW
                    FB.PROMPTLINES
                    FB.PROMPTFONT))))
                    ; Now make them all open. For some reason, attaching the
                    ; menu didn't open it
                (TOTOPW BROWSERWINDOW)
                (|replace| (FILEBROWSER ABORTWINDOW) |of| BROWSER
                    |with| (CONS (MENUWINDOW (|create| MENU
                        ITEMS _ ' ("--Abort--" NIL "Abort the current FileBrowser operation")
                        )
                        CENTERFLG _ T
                        MENUOUTLINESIZE _ 2
                        MENUFONT _ (FONTCOPY FB.MENUFONT 'WEIGHT 'BOLD)
                        WHENSELECTEDFN _ (FUNCTION FB.HANDLE.ABORT.BUTTON)))
                    COMMANDMENUWINDOW))
                (|for| w |in| (LIST COMMANDMENUWINDOW (CAR (|fetch| (FILEBROWSER ABORTWINDOW) |of| BROWSER))
                    (|fetch| (FILEBROWSER COUNTERWINDOW) |of| BROWSER)
                    (|fetch| (FILEBROWSER PROMPTWINDOW) |of| BROWSER))
                    |bind| OLDSCOMS |when| (LISTP (SETQ OLDSCOMS (WINDOWPROP W 'PASSTOMAINCOMS)))
                    |do|
                        ; Make all these subwindows pass hardcopy on to the main
                        ; window
                    (WINDOWPROP W 'PASSTOMAINCOMS (UNION '(HARDCOPYIMAGEW)
                        OLDSCOMS)))
                (|replace| (FILEBROWSER TABLEROWSER) |of| BROWSER |with| (TB.MAKE.BROWSER NIL BROWSERWINDOW
                    (LIST 'PRINTFN (FUNCTION FB.PRINTFN)
                        'COPYFN
                        (FUNCTION FB.COPYFN)
                        'USERDATA BROWSER 'CLOSEFN

```

```

(FUNCTION FB.CLOSEFN)
' AFTERCLOSEFN
(FUNCTION FB.AFTERCLOSEFN)
' HEADINGWINDOW HEADINGWINDOW)))
(WINDOWPROP BROWSERWINDOW 'HARDCOPYFN (FUNCTION FB.HARDCOPY.DIRECTORY))
(WINDOWPROP BROWSERWINDOW 'ICONFN (FUNCTION FB.ICONFN))
(|if| (SETQ FILESPEC (|if| FILESPEC
|then| (DIRECTORY.FILL.PATTERN FILESPEC)
|else| (FB.STARTUP BROWSER COMMANDMENU (FUNCTION FB.GET.NEWPATTERN))))
|then| ; Have a pattern to work with. Now enumerate it in a new
; process.
(FB.SETNEWPATTERN BROWSER FILESPEC)
(ADD.PROCESS `((FUNCTION FB.STARTUP)
',BROWSER
',COMMANDMENU
',(FUNCTION FB.UPDATEBROWSERITEMS))
'NAME
'|FB-Update|
'BEFOREEXIT
'DON'T))
(RETURN BROWSERWINDOW)))

```

**(FB.TABLEBROWSER**

```

(LAMBDA (BROWSER) ; Edited 4-Feb-88 23:13 by bvm:
(|fetch| (FILEBROWSER TABLEBROWSER) |of| (\DTEST BROWSER 'FILEBROWSER)))

```

**(FB.SELECTEDFILES**

```

(LAMBDA (BROWSER NOERRORFLG) ; Edited 29-Jan-88 12:38 by bvm
;; User entry to get the set of selected files, as tableitems, from a filebrowser. If NOERRORFLG is NIL, will print a message if no files are selected.
(COND
((TB.COLLECT.ITEMS (|fetch| (FILEBROWSER TABLEBROWSER) |of| (\DTEST BROWSER 'FILEBROWSER)
' SELECTED))
((NOT NOERRORFLG)
(FB.PROMPTWPRINT BROWSER T "No files are selected"
NIL))))

```

**(FB.FETCHFILENAME**

```

(LAMBDA (ITEM) ; Edited 29-Jan-88 12:37 by bvm
;; User entry to get filename from a browser tableitem.
(|fetch| (FBFILEDATA FILENAME) |of| (|fetch| TIDATA |of| (\DTEST ITEM 'TABLEITEM))))

```

**(FB.DIRECTORYP**

```

(LAMBDA (FILE) ; Edited 20-Feb-2021 20:05 by rmk:
;; Does FILE denote a directory?
(CL:WHEN (TYPE? TABLEITEM FILE)
(SETQ FILE (FETCH TIDATA OF FILE)))
(|fetch| (FBFILEDATA DIRECTORYFILEP) |of| FILE))

```

**(FB.PROMPTWPRINT**

```

(LAMBDA U ; Edited 4-Feb-88 23:08 by bvm:
(COND
((< U 2)
(ERROR "not enough args to PROMPTWPRINT"))
(T (LET ((WINDOW (|fetch| (FILEBROWSER PROMPTWINDOW) |of| (\DTEST (ARG U 1)
' FILEBROWSER)))
; CAR is window, CDR is height in lines
THING)
(|for| ITEM |from| 2 |to| U |do| (SELECTQ (SETQ THING (ARG U ITEM))
(T (TERPRI WINDOW))
(CLEAR (CLEARW WINDOW))
(FRESH (FRESHLINE WINDOW))
(PRIN1 THING WINDOW)))))))

```

**(FB.PROMPTW.FORMAT**

```

(CL:LAMBDA (BROWSER FORMAT-STRING &REST ARGS) ; Edited 29-May-2024 15:16 by mth
; Edited 4-Feb-88 23:15 by bvm:
;; Outputs to FOLDER's prompt window using FORMAT.
(LET ((*PRINT-CASE* :UPCASE)
(*PRINT-BASE* 10)
(WINDOW (OR (AND (|type?| FILEBROWSER BROWSER)
(|fetch| (FILEBROWSER PROMPTWINDOW) |of| (\DTEST BROWSER 'FILEBROWSER)))
PROMPTWINDOW))
;; *PRINT-CASE* is bound so symbols get printed in "expected" case. *PRINT-BASE* is 10 for benefit of printing numbers in the
;; non-format case.
(CL:APPLY (FUNCTION CL:FORMAT)
WINDOW FORMAT-STRING ARGS)))

```



**(FB.PROMPTFORINPUT**

(LAMBDA (PROMPT DEFAULT BROWSER ABORTFLG DONTCLEAR)

; Edited 22-Nov-88 15:33 by bvm

;; Prompt for input for browser BROWSER with question PROMPT offering default answer DEFAULT. If ABORTFLG is true and response is NIL, prints  
;; '... aborted'

```
(LET* ((PWINDOW (|ffetch| (FILEBROWSER PROMPTWINDOW) |of| (\\DTEST BROWSER 'FILEBROWSER)))
      (PROMPTWIDTH (STRINGWIDTH PROMPT PWINDOW))
      (WINDOWWIDTH (WINDOWPROP PWINDOW 'WIDTH))
      RESULT)
  (COND
    (DONTCLEAR (FRESHLINE PWINDOW))
    (T (CLEARW PWINDOW)))
  (COND
    ((> (+ PROMPTWIDTH (STRINGWIDTH (OR DEFAULT "XXX")
                                     PWINDOW))
        WINDOWWIDTH)
     ;; Prompt plus default response will overflow the width of the window, so be a nice guy and break it up
     (|for| I |from| (- (NCHARS PROMPT)
                       4)
              |to| 10 |by| -1 |bind| (EXCESSWIDTH _ (- PROMPTWIDTH WINDOWWIDTH))
              |when| (AND (EQ (NTHCHARCODE PROMPT I)
                              (CHARCODE SPACE))
                        (> (STRINGWIDTH (SUBSTRING PROMPT I)
                                     PWINDOW)
                           EXCESSWIDTH))
              |do| (RETURN (SETQ PROMPT (CONCAT (SUBSTRING PROMPT 1 (SUB1 I))
                                                (CONSTANT (CHARACTER (CHARCODE CR)))
                                                (SUBSTRING PROMPT (ADD1 I)))))))
    (SETQ RESULT (CAR (NLSETQ (TTYINPROMPTFORWARD PROMPT DEFAULT NIL PWINDOW NIL 'TTY (CHARCODE (CR))))))
    (WINDOWPROP PWINDOW 'PROCESS NIL) ; Get rid of process from prompt window
  (COND
    ((AND (NULL RESULT)
          ABORTFLG)
     (PRINTOUT PWINDOW "... aborted")))
  (TERPRI PWINDOW)
  RESULT)))
```

**(FB.YES-OR-NO-P**

(LAMBDA (PROMPT FBROWSER DEFAULT)

; Edited 22-Nov-88 15:30 by bvm

;; Return Y, N or NIL, indicating whether response to question is Yes, No or some kind of abort

```
(LET ((ANSWER (FB.PROMPTFORINPUT PROMPT (SELECTQ DEFAULT
                                                (Y "Yes")
                                                (N "No")
                                                NIL)
                                FBROWSER T T)))
  (COND
    ((NULL ANSWER) ; Aborted
     NIL)
    ((OR (STRING-EQUAL ANSWER "YES")
         (STRING-EQUAL ANSWER "Y"))
     'Y)
    ((OR (STRING-EQUAL ANSWER "NO")
         (STRING-EQUAL ANSWER "N"))
     'N)
    (T (FB.PROMPTWPRINT FBROWSER "?? ...Aborted.") ; Confused somehow
     NIL))))
```

**(FB.ALLOW.ABORT**

(LAMBDA (BROWSER)

; Edited 4-Feb-88 23:11 by bvm:

;; Arranges that this browser have an abort button armed. Must be called underneath a FileBrowser command, so that the cleanup in  
;; fb.make.browser.busy is enabled.

```
(|freplace| (FILEBROWSER UPDATEPROC) |of| (\\DTEST BROWSER 'FILEBROWSER) |with| (THIS.PROCESS))
(LET ((W (|ffetch| (FILEBROWSER ABORTWINDOW) |of| BROWSER)))
  (|if| (NOT (OPENWP (CAR W)))
        |then| (ATTACHWINDOW (CAR W)
                              (CDR W)
                              'BOTTOM) ; And repaint it in case it was used last time
        (REDISPLAYW (CAR W))))))
```

**(\\FB.HARDCOPY.TOFILE.EXTENSION**

(LAMBDA NIL

; Edited 25-Feb-91 15:15 by gadener

```
(LET ((TYPE (PRINTERTYPE)))
  (CASE TYPE
    (INTERPRESS 'IP)
    (POSTSCRIPT 'PS)
    (DEFAULT TYPE))))
```

)

:: Setup

(DEFINEQ

**(FB.STARTUP**

(LAMBDA (BROWSER COMMANDMENU FN)

; Edited 21-Jan-88 17:53 by bvm

:: Apply FN to browser with Recompute grayed out.

(RESETLST

(**FB.MAKE.BROWSER.BUSY** BROWSER (FASSOC ' |Recompute| (|fetch| (MENU ITEMS) |of| COMMANDMENU))  
COMMANDMENU)  
(CL:FUNCALL FN BROWSER)))

**(FB.MAKERIGIDWINDOW**

(LAMBDA (WINDOW)

(\* |bvm:| "22-Jul-85 16:14")

::: make the argument window immutable w/r/to attachedwindow package

(LET ((HEIGHT (|fetch| (REGION HEIGHT) |of| (WINDOWPROP WINDOW 'REGION)))  
(WINDOWPROP WINDOW 'MINSIZE (CONS 0 HEIGHT))  
(WINDOWPROP WINDOW 'MAXSIZE (CONS SCREENWIDTH HEIGHT))  
WINDOW))

)

(DEFINEQ

**(FB.PRINTFN**

(LAMBDA (TBROWSER ITEM WINDOW)

; Edited 30-Aug-94 19:12 by jds

(LET ((FBROWSER (TB.USERDATA TBROWSER))  
(FDATA (|fetch| TIDATA |of| ITEM))  
(STREAM (WINDOWPROP WINDOW 'DSP))  
NEXTPOS INFO OLDFONT)  
COND

((|fetch| (FBFILEDATA DIRECTORYP) |of| FDATA)  
(PRIN3 " " STREAM)  
(|if| FB.BROWSER.DIRECTORY.FONT  
|then| (SETQ OLDFONT (DSPFONT FB.BROWSER.DIRECTORY.FONT STREAM))))

(LET\* ((FILENAME (|fetch| (FBFILEDATA FILENAME) |of| FDATA))  
(OFF (|ffetch| (STRINGP OFFST) |of| FILENAME))  
(BASE (|ffetch| (STRINGP BASE) |of| FILENAME))  
(FATP (|ffetch| (STRINGP FATSTRINGP) |of| FILENAME))  
(END (+ OFF (|ffetch| (STRINGP LENGTH) |of| FILENAME)))  
C)

:: This loop is a performance optimization so I don't have to cons up a substring in the display loop. This is essentially (for c instrng  
:: (fetch (fbfiledata filename) of fdata) do (outchar stream c)), except that I want to start at STARTOFFNAME rather than 1.

:: Slow version: (prin3 (fetch (fbfiledata printname) of fdata) stream), except it doesn't let me intercept cr's.

(|add| OFF (- (|fetch| (FBFILEDATA STARTOFFNAME) |of| FDATA)  
2)) ; Skip to start of name to print  
(|while| (< (|add| OFF 1)  
END)

|do| (SETQ C (COND  
(FATP (\\GETBASEFAT BASE OFF))  
(T (\\GETBASETHIN BASE OFF)))  
(\\OUTCHAR STREAM (|if| (EQ C (CHARCODE CR))  
|then|

; make it a blotch instead of new line #o377 is in char set 0, but  
; is an illegal char, so can't have a glyph

255  
|else| C)))  
(SETQ NEXTPOS (|fetch| (FILEBROWSER INFOSTART) |of| FBROWSER))  
(|for| SPEC |in| (|fetch| (FILEBROWSER INFODISPLAYED) |of| FBROWSER) |as| INFO  
|in| (|fetch| (FBFILEDATA FILEINFO) |of| FDATA) |bind| (FONT - (|fetch| (FILEBROWSER BROWSERFONT)  
|of| FBROWSER))  
FORMAT ACTUALNEXT XPOS

|do| (COND  
(INFO ; Make sure there's always some space before next item  
(PRIN3 " " STREAM)))

(SETQ XPOS (DSPXPOSITION NIL STREAM))  
(SETQ FORMAT (|fetch| (INFOFIELD INFOFORMAT) |of| SPEC))  
(SETQ ACTUALNEXT (COND

((AND (LISTP FORMAT)  
(FIXP INFO)) ; Get numbers to line up right justified  
(IMAX (- (+ NEXTPOS (CADR FORMAT))  
(STRINGWIDTH INFO FONT))  
XPOS))

(T ; All other fields are left-justified  
NEXTPOS)))

(COND  
((< XPOS ACTUALNEXT) ; Clear any previous junk between last position and start of field  
(|if| (AND INFO (EQ FORMAT 'DATE)  
(EQ (CHCON1 INFO)  
(CHARCODE SPACE))))

|then| ; Small nicety for variable-width font: account for the difference  
; between a space and a digit, so that dates line up a little better

```
([add] ACTUALNEXT (- (CHARWIDTH (CHARCODE 9)
                      FONT)
                   (CHARWIDTH (CHARCODE SPACE)
                               FONT))))
(TB.CLEAR.LINE TBROWSER ITEM XPOS (- ACTUALNEXT XPOS))
(DSPXPOSITION ACTUALNEXT STREAM))
(COND
 (INFO (PRIN3 INFO STREAM)))
([add] NEXTPOS ([fetch] (INFOFIELD INFOWIDTH) [of] SPEC)))
(TB.CLEAR.LINE TBROWSER ITEM (DSPXPOSITION NIL STREAM))
(AND OLDFONT (DSPFONT OLDFONT STREAM))))
```

**(FB.COPYFN**

```
(LAMBDA (TBROWSER ITEM) ; Edited 18-Jul-2023 22:19 by rmk
 (* [bvm:] "13-Oct-85 17:44")
 (COPYINSERT ([fetch] (FBFILEDATA FILENAME) [of] ([fetch] TIDATA [of] ITEM))))
```

)

:: commands and major subfunctions

(DEFINEQ

**(FB.MENU.WHENSELECTEDFN**

```
(LAMBDA (ITEM MENU KEY) ; Edited 21-Jan-88 11:40 by bvm
 (ADD.PROCESS ` ( (FUNCTION FB.COMMANDSELECTEDFN)
                  ' , ITEM
                  ' , MENU
                  ' , KEY)
              ' NAME
              (PACK* 'FB- (CAR ITEM))
              ' BEFOREEXIT
              ' DON\'T)))
```

**(FB.COMMANDSELECTEDFN**

```
(LAMBDA (ITEM MENU KEY) ; Edited 12-Jan-87 12:57 by bvm:
 (RESETLST
  (LET* ((REALITEM ITEM)
         (WINDOW (WINDOWPROP (WFROMMENU MENU)
                              'MAINWINDOW))
         (FBROWSER (WINDOWPROP WINDOW 'FILEBROWSER)))
    (COND
     ((NOT (MEMBER ITEM ([fetch] (MENU ITEMS) [of] MENU)))
      ; A subitem -- fetch main item
      (SETQ ITEM ([for] I [in] ([fetch] (MENU ITEMS) [of] MENU) [thereis] (FB.SUBITEMP ITEM I))))
     (COND
      ((FB.MAKE.BROWSER.BUSY FBROWSER ITEM MENU)
       (LET ((FN (CADR REALITEM))
             (PWINDOW ([fetch] (FILEBROWSER PROMPTWINDOW) [of] FBROWSER))
             EXTRA)
          (COND
           ((OPENWP PWINDOW)
            (CLEARW PWINDOW)))
          (COND
           ((LISTP FN)
            (SETQ EXTRA (CADR FN))
            (SETQ FN (CAR FN))))
          (CL:FUNCALL FN FBROWSER KEY REALITEM MENU EXTRA)))
      (T ; Used to be (FB.PROMPTWPRINT WINDOW 'This filebrowser
                ; is busy') but that trashes the prompt window
         (FLASHWINDOW WINDOW)))))))
```

**(FB.SUBITEMP**

```
(LAMBDA (SUBITEM ITEM) ; Edited 2-Dec-2021 19:05 by larry
 (* [bvm:] "22-Jul-85 15:08")
```

::: True if SUBITEM appears among the subitems of ITEM or descendents

```
(LET ((SI (CADDR ITEM))
      (AND SI (EQ (CAR (LISTP SI))
                  'SUBITEMS)
      (OR (MEMBER SUBITEM SI)
          ([for] I [in] (CDR SI) [thereis] (FB.SUBITEMP SUBITEM I))))))
```

**(FB.MAKE.BROWSER.BUSY**

```
(LAMBDA (BROWSER ITEM MENU DONTWAIT) ; Edited 27-Feb-2021 19:21 by rmk:
 ; Edited 1-Feb-88 16:43 by bvm:
```

::: Makes browser 'busy' doing ITEM of MENU. Must be called under RESETLST

```
(COND
 ((OBTAIN.MONITORLOCK ([fetch] (FILEBROWSER FBLOCK) [of] BROWSER)
  DONTWAIT T)
```

```
(RESETSAVE NIL (LIST (FUNCTION FB.FINISH.COMMAND)
                     BROWSER ITEM MENU))
(|if| ITEM
 |then| (SHADEITEM ITEM MENU FB.ITEMSELECTEDSHADE)
        (PUTMENUPROP MENU 'ITEMSHADE (CONS ITEM FB.ITEMSELECTEDSHADE)))
T)))
```

**(FB.FINISH.COMMAND**

(LAMBDA (BROWSER ITEM MENU)

; Edited 27-Feb-2021 19:52 by rmk:  
; Edited 1-Feb-88 16:34 by bvm:

:: Cleanup after generic command on BROWSER. ITEM and MENU (optional) specify the shaded item. This is called under a RESETLST by  
:: anyone calling FB.MAKE.BROWSER.BUSY, but needs to be called explicitly by anyone who closes/shrinks the window before that cleanup  
:: would happen.

```
(|replace| (FILEBROWSER UPDATEPROC) |of| BROWSER |with| NIL)
(|replace| (FILEBROWSER ABORTING) |of| BROWSER |with| NIL)
```

:: RMK: Don't reshade the item if it isn't needed. This will prevent the FB window from popping on top of any windows that the menu command  
:: created (SEE, EDIT), if they clear it before they open their windows.

```
(LET ((W (CAR (|fetch| (FILEBROWSER ABORTWINDOW) |of| BROWSER)))
      M)
      (|if| (OPENWP W)
            |then|
              (DETACHWINDOW W) ; Take down the abort button if there was one
              (SHADEITEM (CAR (|fetch| (MENU ITEMS) |of| (SETQ M (CAR (WINDOWPROP W 'MENU)))))
                          M FB.ITEMUNSELECTEDSHADE)
              (CLOSEW W)))
      (|if| (AND ITEM (EQ ITEM (CAR (GETMENUPROP MENU 'ITEMSHADE)))
              (NEQ FB.ITEMUNSELECTEDSHADE (CDR (GETMENUPROP MENU 'ITEMSHADE))))
            |then| (SHADEITEM ITEM MENU FB.ITEMUNSELECTEDSHADE)
              (PUTMENUPROP MENU 'FB.ITEMUNSELECTEDSHADE NIL))
      (COND
        (RESETSTATE (FB.PROMPTWPRINT BROWSER "...command aborted."))))))
```

**(FB.HANDLE.ABORT.BUTTON**

(LAMBDA (ITEM MENU)

; Edited 27-Jan-88 23:38 by bvm

:: Called when the ABORT button on a Filebrowser is pressed.

```
(LET ((BROWSER (WINDOWPROP (MAINWINDOW (WFROMMENU MENU)
                                  T)
                            'FILEBROWSER))
      PROC)
      (|if| (AND BROWSER (SETQ PROC (|fetch| (FILEBROWSER UPDATEPROC) |of| BROWSER))
              (NOT (|fetch| (FILEBROWSER ABORTING) |of| BROWSER)))
            |then|
              (SHADEITEM ITEM MENU FB.ITEMSELECTEDSHADE) ; We're connected to a browser, there's a process running, and
              (|replace| (FILEBROWSER ABORTING) |of| BROWSER |with| T) ; it's not already aborting
              (DEL.PROCESS PROC))))))
```

(DEFINEQ

**(FB.DELETECOMMAND**

(LAMBDA (BROWSER)

(\* |bvm:| "12-Sep-85 15:44")

```
(TB.MAP.SELECTED.ITEMS (|fetch| (FILEBROWSER TABLEBROWSER) |of| BROWSER)
 (FUNCTION FB.DELETE.FILE))
(FB.UPDATE.COUNTERS BROWSER))
```

**(FB.DELVERCOMMAND**

(LAMBDA (FBROWSER)

; Edited 15-Feb-91 17:19 by gadener

```
(LET (NVERSIONS TBROWSER NDELETED FILES)
      (|if| (EQ (SETQ NVERSIONS (MENU (|create| MENU
                                     TITLE _ "Versions to keep ?"
                                     ITEMS _ FB.VERSION.MENU.ITEMS
                                     CENTERFLG _ T)))
            :NUMBER)
            |then| (FB.ALLOW.ABORT FBROWSER)
              (SETQ NVERSIONS (RNUMBER "Number of versions to keep ?" NIL NIL NIL T NIL T)))
      (COND
        ((NOT NVERSIONS)
         NIL)
        ((NOT (FIXP (SETQ NVERSIONS (MKATOM NVERSIONS))))
         (FB.PROMPTW.FORMAT FBROWSER "~%?? ~A not an integer." NVERSIONS))
        ((EQ NVERSIONS 0)
         NIL)
        (T (SETQ FILES (TB.COLLECT.ITEMS (SETQ TBROWSER (|fetch| (FILEBROWSER TABLEBROWSER) |of| FBROWSER))
                                         (FUNCTION (LAMBDA (BROWSER ITEM)
                                                     ; Collect everything that is not a directory item and that has an
                                                     ; actual version (to avoid unix lossage)
                                                     (AND (NOT (|fetch| TIUNSELECTABLE |of| ITEM))
                                                           (NOT (NULL.VERSIONP (|fetch| (FBFILEDATA VERSION)
                                                                 |of| (|fetch| TIDATA |of| ITEM))))))))))
```

```
(SETQ NDELETED (FB.DELVER.FILES TBROWSER (SELECTQ (|fetch| (FILEBROWSER SORTBY) |of| FBROWSER)
                                                     (FB.NAMES.DECREASING.VERSION
              ; Just right
              FILES)
                                                     (FB.NAMES.INCREASING.VERSION
              ; Close, but no cigar
              (FB.SORT.VERSIONS FILES (FUNCTION
              FB.DECREASING.VERSION)
              ))
                                                     (SORT FILES (FUNCTION FB.NAMES.DECREASING.VERSION)))
              NVERSIONS))
(FB.UPDATE.COUNTERS FBROWSER 'DELETED)
(FB.PROMPTW.FORMAT FBROWSER "~%Done, ~D files marked for deletion." NDELETED))))))
```

**(FB.IS.NOT.SUBDIRECTORY.ITEM**

```
(LAMBDA (BROWSER ITEM) (* |bvm:| "13-Oct-85 16:51")
  (NOT (|fetch| TIUNSELECTABLE |of| ITEM))))
```

**(FB.DELVER.FILES**

```
(LAMBDA (TBROWSER FILES NVERSIONS) (* |bvm:| "15-Oct-85 00:20")
  (|for| FILE |in| FILES |bind| (\#DELETED _ 0)
    (\#SEENSO FAR _ 0)
    THISNAME LASTNAME
  |do| ; Files now all lined up, decreasing version. Just pass by
      ; NVERSIONS of each file
  (COND
    ((STRING-EQUAL (SETQ THISNAME (|fetch| (FBFILEDATA VERSIONLESSNAME) |of| (|fetch| TIDATA |of| FILE)))
      LASTNAME)
    (COND
      ((GREATERP (|add| \#SEENSO FAR 1)
        NVERSIONS)
      (COND
        ((FB.DELETE.FILE TBROWSER FILE)
        (|add| \#DELETED 1))))))
    (T (SETQ LASTNAME THISNAME)
      (SETQ \#SEENSO FAR 1)))
  |finally| (RETURN \#DELETED))))
```

**(FB.DELETE.FILE**

```
(LAMBDA (TBROWSER ITEM) (* |bvm:| "13-Oct-85 17:44")
  (COND
    ((NOT (|fetch| TIDELETED |of| ITEM))
    (LET ((FBROWSER (TB.USERDATA TBROWSER))
      SIZE)
      (TB.DELETE.ITEM TBROWSER ITEM)
      (|add| (|fetch| (FILEBROWSER DELETEDFILES) |of| FBROWSER)
        1)
      (COND
        ((SETQ SIZE (|fetch| (FBFILEDATA SIZE) |of| (|fetch| TIDATA |of| ITEM)))
        (|add| (|fetch| (FILEBROWSER DELETEDPAGES) |of| FBROWSER)
          SIZE)))
      T))))))
)
```

(DEFINEQ

**(FB.UNDELETECOMMAND**

```
(LAMBDA (BROWSER) (* |bvm:| "12-Sep-85 15:44")
  (TB.MAP.SELECTED.ITEMS (|fetch| (FILEBROWSER TABLEBROWSER) |of| BROWSER)
    (FUNCTION FB.UNDELETE.FILE))
  (FB.UPDATE.COUNTERS BROWSER)))
```

**(FB.UNDELETEALLCOMMAND**

```
(LAMBDA (BROWSER) (* |bvm:| "18-Sep-85 12:20")
  (TB.MAP.ITEMS (|fetch| (FILEBROWSER TABLEBROWSER) |of| BROWSER)
    (FUNCTION FB.UNDELETE.FILE))
  (FB.UPDATE.COUNTERS BROWSER)))
```

**(FB.UNDELETE.FILE**

```
(LAMBDA (TBROWSER ITEM) (* |bvm:| "13-Oct-85 17:44")
  (COND
    ((|fetch| TIDELETED |of| ITEM)
    (LET ((FBROWSER (TB.USERDATA TBROWSER))
      SIZE)
      (TB.UNDELETE.ITEM TBROWSER ITEM)
      (|add| (|fetch| (FILEBROWSER DELETEDFILES) |of| FBROWSER)
        -1)
      (COND
        ((SETQ SIZE (|fetch| (FBFILEDATA SIZE) |of| (|fetch| TIDATA |of| ITEM)))
        (|add| (|fetch| (FILEBROWSER DELETEDPAGES) |of| FBROWSER)
          (IMINUS SIZE))))))
      T))))))
```

)

(DEFINEQ

**(FB.COPYCOMMAND**

(LAMBDA (BROWSER) ; Edited 19-Oct-90 17:44 by gadener  
(**FB.COPY/RENAME.COMMAND** BROWSER ' |Copy| (CONS (FUNCTION COPYFILE))))

**(FB.RENAMECOMMAND**

(LAMBDA (BROWSER) ; Edited 19-Oct-90 18:57 by gadener  
(**FB.COPY/RENAME.COMMAND** BROWSER ' |Rename| (CONS (FUNCTION RENAMEFILE))))

**(FB.COPY/RENAME.COMMAND**

(LAMBDA (FBROWSER CMD MOVEFN) ; Edited 28-Jan-88 00:27 by bvm  
(LET ((\*UPPER-CASE-FILE-NAMES\* NIL)  
(FILELIST (**FB.SELECTEDFILES** FBROWSER)))  
(|if| FILELIST  
|then| (**FB.ALLOW.ABORT** FBROWSER)  
(COND  
( (CDR FILELIST)  
(**FB.COPY/RENAME.MANY** FBROWSER FILELIST CMD MOVEFN))  
(T ; Just one file  
(LET\* ((OLDNAME (**FB.FETCHFILENAME** (CAR FILELIST)))  
(NEWNAME (**FB.GET.NEW.FILE.SPEC** OLDNAME FBROWSER CMD)))  
(COND  
(NEWNAME (**FB.COPY/RENAME.ONE** FBROWSER (CAR FILELIST)  
OLDNAME NEWNAME CMD MOVEFN))))))))

**(FB.COPY/RENAME.ONE**

(LAMBDA (FBROWSER ITEM OLDNAME NEWNAME CMD MOVEFN) ; Edited 19-Oct-90 17:50 by gadener

;;; Copies or renames a single file ITEM from OLDNAME to NEWNAME and updates browser accordingly

(CL:MULTIPLE-VALUE-BIND (ACTUALNEWNAME CONDITION)  
(IGNORE-ERRORS (CL:FUNCCALL (CAR MOVEFN)  
OLDNAME NEWNAME (CDR MOVEFN)))  
(COND  
(ACTUALNEWNAME (**FB.PROMPTW.FORMAT** FBROWSER "~%-A ~Aed to ~A" OLDNAME (SELECTQ CMD  
(|Copy| "copi")  
(|Rename| "renam")  
(SHOULDNT))  
ACTUALNEWNAME)  
(LET ((CHANGETYPE (COND  
( (EQ CMD ' |Rename|)  
(**FB.REMOVE.FILE** (|fetch| (FILEBROWSER TABLEBROWSER) |of| FBROWSER)  
FBROWSER ITEM)  
(COND  
( (|fetch| TIDLETED |of| ITEM)  
' BOTH  
(T ' TOTAL))))))  
(COND  
( (**FB.MAYBE.INSERT.FILE** FBROWSER ACTUALNEWNAME ITEM CMD)  
; ACTUALNEWNAME belongs in this browser, so TOTAL may  
; have changed  
(OR CHANGETYPE (SETQ CHANGETYPE ' TOTAL))))  
(COND  
(CHANGETYPE (**FB.UPDATE.COUNTERS** FBROWSER CHANGETYPE))))  
(T (**FB.PROMPTW.FORMAT** FBROWSER "~%-Could not ~(~A~) ~A ~A ~A" CMD OLDNAME  
(|if| CONDITION  
|then| "because"  
|else| "to")  
(OR CONDITION NEWNAME))))))

**(FB.COPY/RENAME.MANY**

(LAMBDA (FBROWSER FILELIST CMD MOVEFN) ; Edited 22-Jan-94 20:24 by

(PROG (PREFIX OLDNAME FIELDS SUBDIR FIRSTDATA RETAIN HOST DIR DEVICE)  
(COND  
( (NULL (SETQ PREFIX (**FB.PROMPTFORINPUT** (CONCAT CMD " " (LENGTH FILELIST)  
" files to which directory? ")  
(OR (|fetch| (FILEBROWSER DEFAULTDIR) |of| FBROWSER)  
(DIRECTORYNAME T))  
FBROWSER T))) ; Aborted  
)  
( (STRPOS "\*" PREFIX)  
(**FB.PROMPTWPRINT** FBROWSER "Sorry, patterns not supported")  
(AND (OR (LISTGET (SETQ FIELDS (UNPACKFILENAME.STRING PREFIX))  
' HOST)  
(LISTGET FIELDS ' DIRECTORY)  
(LISTGET FIELDS ' DEVICE))  
(OR (LISTGET FIELDS ' NAME)  
(LISTGET FIELDS ' EXTENSION))

```

      (LISTGET FIELDS 'VERSION))) ; Not a pure directory specification, and not just a simple
                                   ; directory name
      (FB.PROMPTWPRINT FBROWSER "Not a well-formed directory specification.")
      ((SETQ PREFIX (FB.CANONICAL.DIRECTORY (\\ADD.CONNECTED.DIR PREFIX)
      FBROWSER CMD))
      (SETQ HOST (LISTGET (SETQ FIELDS (UNPACKFILENAME.STRING PREFIX))
      'HOST))
      (SETQ DIR (OR (LISTGET FIELDS 'DIRECTORY)
      (LISTGET FIELDS 'RELATIVEDIRECTORY)))
      (SETQ DEVICE (LISTGET FIELDS 'DEVICE))
      (|replace| (FILEBROWSER DEFAULTDIR) |of| FBROWSER |with| PREFIX)
      ;; First scan to see if the files are in multiple subdirectories, since then it's unclear how the new files should be named.
      (SETQ FIRSTDATA (|fetch| TIDATA |of| (CAR FILELIST)))
      (COND
      ((|for| ITEM |in| (CDR FILELIST) |thereis| (NOT (EQ.DIRECTORYP FIRSTDATA (|fetch| TIDATA |of| ITEM))))
      (SETQ SUBDIR (|fetch| (FBFILEDATA SUBDIRECTORY) |of| FIRSTDATA))
      (FB.PROMPTWPRINT FBROWSER "Selected files are in multiple subdirectories")
      (SETQ RETAIN
      (SELECTQ (FB.YES-OR-NO-P
      (CONCAT "Retain subdirectory names below level of "
      (|for| ITEM |in| (CDR FILELIST)
      |repeatwhile| (SETQ SUBDIR (FB.GREATEST.PREFIX SUBDIR
      (|fetch| (FBFILEDATA FILENAME)
      |of| (|fetch| TIDATA |of| ITEM))))
      |finally| (RETURN (OR SUBDIR (SETQ SUBDIR (SUBSTRING
      (|fetch| (FILEBROWSER PATTERN)
      |of| FBROWSER)
      1
      (SUB1 (|fetch| (FILEBROWSER
      NAMESTART)
      |of| FBROWSER))))))))
      "?")
      FBROWSER
      'Y)
      (NIL ; Aborted
      (RETURN))
      (Y (SETQ SUBDIR (ADD1 (NCHARS SUBDIR)) ; First character that changes
      T)
      (NIL))))
      ;; Now make sure the files are sorted by increasing version, so that multiple versions get copied in the right order
      (SELECTQ (|fetch| (FILEBROWSER SORTBY) |of| FBROWSER)
      (FB.NAMES.INCREASING.VERSION ; Okay
      )
      (FB.NAMES.DECREASING.VERSION
      (SETQ FILELIST (FB.SORT.VERSIONS FILELIST (FUNCTION FB.INCREASING.VERSION))))
      (SORT FILELIST (FUNCTION FB.NAMES.INCREASING.VERSION)))
      (|for| ITEM |in| FILELIST
      |do| (FB.COPY/RENAME.ONE FBROWSER ITEM (SETQ OLDNAME (FB.FETCHFILENAME ITEM))
      (PACKFILENAME.STRING 'HOST HOST 'DEVICE DEVICE 'DIRECTORY
      (|if| (NOT RETAIN)
      |then| DIR
      |else| ; Merge destination directory with subdirectory of name between
      ; common prefix and root
      (FB.MERGE.DIRECTORIES DIR (SUBSTRING OLDNAME SUBDIR
      (SUB1 (|fetch| (FBFILEDATA STARTOFNAME)
      |of| (|fetch| TIDATA
      |of| ITEM))))))
      'VERSION NIL 'BODY OLDNAME)
      CMD MOVEFN))))))

```

**(FB.MERGE.DIRECTORIES**

```

(LAMBDA (PREFIX RETAIN) ; Edited 22-Jun-90 11:29 by nm
(COND
(PREFIX (|if| RETAIN
|then| (CONCAT PREFIX (CL:SECOND \\FILENAME.SYNTAX)
RETAIN)
|else| PREFIX))
(T (|if| RETAIN
|then| RETAIN
|else| NIL))))

```

**(FB.GREATEST.PREFIX**

```

(LAMBDA (DIR FILENAME) ; Edited 25-Jan-88 16:37 by bvm

```

;;; Greatest common directory prefix of DIR and FILENAME

```

(AND DIR FILENAME (COND
((STRPOS DIR FILENAME 1 NIL T NIL UPPERCASEARRAY)
; DIR is prefix of FILENAME
DIR)
(T (|for| I |from| 1 |bind| LASTDIR C

```

```

|do| (|if| (OR (NULL (SETQ C (NTHCHARCODE DIR I)))
              (NEQ C (NTHCHARCODE FILENAME I)))
      |then|
      ; Came to end of DIR or a non-matching character. Return the
      ; substring of DIR up to the last directory delimiter we saw.
      (RETURN (AND LASTDIR (SUBSTRING DIR 1 LASTDIR)))
      |else| (SELCHARQ C
              ((/ >)
               ; end of a subdirectory
              (SETQ LASTDIR I))
              NIL))))))

```

**FB.MAYBE.INSERT.FILE**

(LAMBDA (FBROWSER NEWNAME OLDITEM CMD) ; Edited 19-Oct-90 12:32 by gadener

;;; If NEWNAME matches the pattern of files displayed in FBROWSER, insert it in that browser and return T. OLDITEM is the tableitem that formed the source of NEWNAME. CMD is the command that created NEWNAME -- Copy or Rename

```

(LET ((*UPPER-CASE-FILE-NAMES* NIL)
      FILEINFO N FULLNAME CRDATE CRDATE2 VERSION NEWDATA NEWITEM FILE-UNCERTAIN)
  (COND
    ((AND (DIRECTORY.MATCH (|fetch| (FILEBROWSER PREPARED PATTERN) |of| FBROWSER)
                          NEWNAME)
          ;; Need to check that at least the FB pattern is not longer than the NEWNAME
          (GEQ (NCHARS NEWNAME)
               (SETQ N (SUB1 (|fetch| (FILEBROWSER DIRECTORY START) |of| FBROWSER))))
          ;; Checks for match up to where the directory part start. i.e. the host part
          (STRING-EQUAL NEWNAME (|fetch| (FILEBROWSER PATTERN) |of| FBROWSER)
                          :END1 N :END2 N))
      ;; NEWNAME belongs in this browser, so add it. First create some attributes for it
      (SETQ NEWDATA (FB.CREATE.FILEBUCKET FBROWSER NEWNAME
                                           (SETQ FILEINFO (COND
                                                             (OLDITEM ; Info from old item will do for starters
                                                             (APPEND (|fetch| (FBFILEDATA FILEINFO)
                                                             |of| (|fetch| TIDATA |of| OLDITEM))))
                                                             (T (|for| ATTR |in| (|fetch| (FILEBROWSER INFODISPLAYED)
                                                             |of| FBROWSER)
                                                             |collect| (GETFILEINFO NEWNAME (CAR ATTR)))))))
          (COND
            ((NULL.VERSIONP (|fetch| (FBFILEDATA VERSION) |of| NEWDATA))
             ;; Grumble. IFS version of Rename does not return a full file name, due to shortcoming in ftp protocol, so we won't know the
             ;; version. Best we can do is assume that it's the newest version. If creation date of old file is available, verify that they agree
             (|if| (NULL (SETQ FULLNAME (INFILEP NEWNAME)))
                  |then| ; Can't find file?
                  (SETQ FILE-UNCERTAIN T)
                  |elseif| (NULL (SETQ VERSION (UNPACKFILENAME.STRING FULLNAME 'VERSION NIL 'TENEX)))
                  |then| ; Was versionless file after all, say Unix. Nothing to do. Pass
                  ; TENEX as ostype because we know the name was in canonical
                  ; form from device, and don't want periods turned spuriously into
                  ; semi-colons
                  |elseif| (OR (NULL (SETQ CRDATE (CL:POSITION 'CREATIONDATE (|fetch| (FILEBROWSER INFODISPLAYED)
                  |of| FBROWSER))))
                            (NULL (SETQ CRDATE (CL:NTH CRDATE FILEINFO)))
                            (AND (SETQ CRDATE (IDATE CRDATE))
                                 (SETQ CRDATE2 (GETFILEINFO FULLNAME 'ICREATIONDATE))
                                 (= CRDATE2 CRDATE)))
                  |then| ; Assume we're right about it being newest version
                  (SETQ NEWDATA (FB.CREATE.FILEBUCKET FBROWSER (SETQ NEWNAME (PROGN
                  ; Canonicalize NEWNAME -- some cases where final period was
                  ; left out
                  (PACKFILENAME.STRING
                   'BODY NEWNAME
                   'EXTENSION ""
                   'VERSION VERSION))
                  FILEINFO))
                  |else| (SETQ FILE-UNCERTAIN T)))
            (SETQ NEWITEM (|create| TABLEITEM
                                  TIDATA _ NEWDATA))
            (|if| OLDITEM
                 |then|
                 (|for| TAIL |on| FILEINFO |as| SPEC |in| (|fetch| (FILEBROWSER INFODISPLAYED) |of| FBROWSER)
                  |unless| (SELECTQ (CAR SPEC)
                                   (AUTHOR ; Rename usually preserves this, but Copy sometimes changes it
                                   (EQ CMD 'Rename))
                                   ((CREATIONDATE SIZE LENGTH TYPE BYTESIZE)
                                    ; These are preserved by both copy and rename, assuming that
                                    ; the source and destination device are the same
                                   T)
                                   (PROGN ; Read and Write dates are generally changed. Also,
                                   ; conservatively assume that Copy/Rename could change any
                                   ; attribute we don't know about
                                   NIL)))

```



```

    |do| (RPLACA TAIL (AND (NOT FILE-UNCERTAIN)
                          (GETFILEINFO NEWNAME (CAR SPEC))))
  (COND
    ((AND (EQ CMD ' |Rename| )
          (|fetch| TISELECTED |of| OLDITEM)) ; If old item was selected, keep the renamed version selected as
          ; well
          (|replace| TISELECTED |of| NEWITEM |with| T))))
  (FB.INSERT.FILE FBROWSER NEWITEM
  T))))

```

**(FB.GET.NEW.FILE.SPEC**

(LAMBDA (OLDNAME BROWSER CMD) ; Edited 22-Nov-88 16:55 by bvm  
 ;; For Copy and Rename commands, derives a new name to copy/rename to from OLDNAME. PREFIX if given is a DIRECTORY spec; if not  
 ;; given, we prompt for a destination file. Returns NIL if user aborts

```

  (LET (NEWNAME NAMEFIELD FIELDS DIR)
    (COND
      ((NULL (SETQ NEWNAME (FB.PROMPTFORINPUT (CONCAT CMD " file " OLDNAME (SELECTQ CMD
                                                (|Rename| " to be: ")
                                                (|Copy| " to new file
                                                  name: ")
                                                (SHOULDNT)))
                                              (PACKFILENAME.STRING 'DIRECTORY (OR (|fetch| (FILEBROWSER DEFAULTDIR)
                                                                                       |of| BROWSER)
                                                                                       (DIRECTORYNAME T))
                                              'VERSION NIL 'BODY OLDNAME)
                                              BROWSER T))) ; Aborted
        NIL)
      ((NULL (SETQ NAMEFIELD (LISTGET (SETQ FIELDS (UNPACKFILENAME.STRING NEWNAME))
                                      'NAME))) ; Assume directory spec
        (SETQ NEWNAME (\\ADD.CONNECTED.DIR NEWNAME))
        (|replace| (FILEBROWSER DEFAULTDIR) |of| BROWSER |with| NEWNAME)
        (PACKFILENAME.STRING 'DIRECTORY NEWNAME 'VERSION NIL 'BODY OLDNAME))
      ((AND (EQ (NCHARS NAMEFIELD)
                0)
            (OR (NULL (SETQ NAMEFIELD (LISTGET FIELDS 'EXTENSION)))
                (EQ (NCHARS NAMEFIELD)
                    0)))) ; Directory spec with some more pieces after it?
        (FB.PROMPTWPRINT BROWSER "Failed, malformed name")
        NIL)
      (T ; A plain old file name
        (|for| TAIL |on| FIELDS |by| (CDDR TAIL) |bind| PREVTAIL
          |do| (SELECTQ (CAR TAIL)
                      ((HOST DIRECTORY DEVICE) ; Keep these
                      )
          )
        (RETURN (COND
                  ((EQ TAIL FIELDS)
                   (SETQ FIELDS NIL))
                  (T (RPLACD (CDR PREVTAIL))))))
        (SETQ PREVTAIL TAIL))
      (COND
        ((SETQ DIR (COND
                  (FIELDS (SETQ DIR (PACKFILENAME.STRING FIELDS))
                    (FB.CANONICAL.DIRECTORY (COND
                                             ((NEQ (CAR FIELDS)
                                                  'HOST)
                                              (\\ADD.CONNECTED.DIR DIR))
                                             (T DIR))
                                             BROWSER CMD))
                    (T (DIRECTORYNAME T))))
          (|replace| (FILEBROWSER DEFAULTDIR) |of| BROWSER |with| DIR)
          (\\ADD.CONNECTED.DIR NEWNAME))))))

```

**(FB.CANONICAL.DIRECTORY**

(LAMBDA (DIRNAME FBROWSER CMD) ; Edited 22-Nov-88 16:58 by bvm  
 (LET\* ((PWINDOW (|ffetch| (FILEBROWSER PROMPTWINDOW) |of| (\\DTEST FBROWSER 'FILEBROWSER))
 (OLDTTYSTREAM (TTYDISPLAYSTREAM PWINDOW))
 (OLDTTYPROC (TTY.PROCESS (THIS.PROCESS)))) ; Point tty at our prompt window in case DIRECTORYNAME tries  
 ; to interact

```

  (CL:UNWIND-PROTECT
    (COND
      ((DIRECTORYNAME DIRNAME NIL 'ASK)
       ((EQ (FB.YES-OR-NO-P (CL:FORMAT NIL "Directory ~A does not exist yet; ~A anyway?" DIRNAME CMD)
                            FBROWSER)
            'Y)
        DIRNAME))
      (TTY.PROCESS OLDTTYPROC)
      (TTYDISPLAYSTREAM OLDTTYSTREAM)
      (WINDOWPROP PWINDOW 'PROCESS NIL))))

```

)

(DEFINEQ

**(FB.HARDCOPYCOMMAND**

(LAMBDA (BROWSER KEY ITEM MENU OPTION)

; Edited 18-Feb-91 10:44 by gadener

;;; Produces hardcopy of selected files. Subcommands allow directing output to particular printer, or to a file

```
(LET ((FILES (FB.SELECTEDFILES BROWSER))
      PRINTOPTIONS)
      (COND
        ((AND FILES (SELECTQ OPTION
          (FILE (FB.ALLOW.ABORT BROWSER)
              (FB.HARDCOPY.TOFILE BROWSER FILES)
              NIL)
          (PRINTER (COND
            ((SETQ PRINTOPTIONS (|GetPrinterName|))
              (SETQ PRINTOPTIONS (LIST 'SERVER PRINTOPTIONS))
            T)))
          T))
        (FB.ALLOW.ABORT BROWSER)
        (|for| ITEM |in| FILES |do| (LISTFILES1 (FB.FETCHFILENAME ITEM)
          PRINTOPTIONS))))))
```

**(FB.HARDCOPY.TOFILE**

(LAMBDA (BROWSER FILES)

; Edited 15-Feb-91 17:13 by gadener

;; Handle the "Hardcopy>To File" command.

```
(PROG ((HCOPIYFILE (FB.PROMPTFORINPUT (COND
  ((CDR FILES)
    "Hardcopy file name pattern: ")
  (T "Hardcopy file name: ")
  (COND
    ((CDR FILES)
      (PACKFILENAME.STRING 'NAME '* 'EXTENSION (\\FB.HARDCOPY.TOFILE.EXTENSION)))
    (T (PACKFILENAME.STRING 'VERSION NIL 'EXTENSION (\\FB.HARDCOPY.TOFILE.EXTENSION)
      'BODY
      (FB.FETCHFILENAME (CAR FILES))))))
  BROWSER T))
  HCOPIYFIELDS PRINTFILETYPE MSG HCOPIYTAIL FORE AFT EXT)
  (COND
    ((NULL HCOPIYFILE)
      (RETURN)))
    (COND
      ((CDR FILES)
        ;; Hardcopying multiple files. Take apart the pattern so we can figure out how to make the destination names. We insist that the * be
        ;; in the name.
        (COND
          ((|for| TAIL |on| (SETQ HCOPIYFIELDS (UNPACKFILENAME.STRING HCOPIYFILE)) |by| (CDDR TAIL)
            |bind| HOST HAVEDIRECTORY I |do| (COND
              ((SETQ I (STRPOS '* (CADR TAIL)))
                (|if| (NEQ (CAR TAIL)
                  'NAME)
                  |then| (RETURN (SETQ MSG "Only name portion can
                    contain *"))
                  ; Take apart name into FORE*AFT
                  (SETQ HCOPIYTAIL (CDR TAIL))
                  (SETQ FORE (OR (SUBSTRING (CADR TAIL)
                    1
                    (SUB1 I))
                    ""))
                  (SETQ AFT (OR (SUBSTRING (CADR TAIL)
                    (ADD1 I))
                    ""))
                  (T (SELECTQ (CAR TAIL)
                    (NAME (RETURN (SETQ MSG "Name must have * for
                    multiple hardcopy files")))
                    (EXTENSION (SETQ EXT (MKATOM (U-CASE (CADR TAIL)))
                    ))
                    (DIRECTORY (SETQ HAVEDIRECTORY T))
                    (HOST (SETQ HOST (CADR TAIL)))
                    NIL)))
                |finally| (|if| (AND HOST (NOT HAVEDIRECTORY))
                  |then| (RETURN (SETQ MSG "E.g., {DSK}*.IP. This pattern explicitly has no directory
                    name"))
                  (|push| HCOPIYFIELDS 'DIRECTORY NIL)))
          (FB.PROMPTWPRINT BROWSER "Bad pattern -- " MSG)
          (RETURN))))
      (T (SETQ EXT (U-CASE (FILENAMEFIELD HCOPIYFILE 'EXTENSION))))
      (COND
        ((AND (NULL (SETQ PRINTFILETYPE (|for| TYPE |in| PRINTFILETYPES
          |when| (FMEMB EXT (CADR (ASSOC 'EXTENSION (CDR TYPE))))
          |do| (RETURN (SETQ PRINTFILETYPE FROM.EXTENSION because
            that one's buggy
            (RETURN (CAR TYPE))))))
          (NULL (SETQ PRINTFILETYPE (MENU (|MakeMenuOfImageTypes| "File type?"))))
          (RETURN)))
        (|for| ITEM |in| FILES |bind| (CONVERTERS _ (PRINTFILEPROP PRINTFILETYPE 'CONVERSION))
          FILETYPE NAME FN FIELDS
```

```

[do] (SETQ ITEM (FB.FETCHFILENAME ITEM))
      (SETQ FILETYPE (OR (PRINTFILETYPE ITEM)
                        'TEXT))
      (COND
        ((SETQ FN (LISTGET CONVERTERS FILETYPE))
         (FB.PROMPTW.FORMAT BROWSER "~%Writing ~A..." (SETQ NAME
                                                         (COND
                                                           ((CDR FILES)
                                                            (SETQ FIELDS (UNPACKFILENAME.STRING
                                                                ITEM NIL NIL 'TENEX))
                                                            (RPLACA HCOPIYTAIL
                                                                (CONCAT FORE (LISTGET
                                                                    FIELDS
                                                                    'NAME)
                                                                AFT))
                                                            (CL:APPLY (FUNCTION PACKFILENAME.STRING)
                                                                'VERSION NIL (APPEND HCOPIYFIELDS
                                                                    FIELDS))))
                                                           (T HCOPIYFILE))))))
         (SETQ NAME (CL:FUNCALL FN ITEM NAME))
         (COND
           ((LISTP NAME)
            (SETQ NAME (CADR NAME)))
            (FB.PROMPTWPRINT BROWSER "done.")
            (FB.MAYBE.INSERT.FILE BROWSER NAME))
           (T (FB.PROMPTW.FORMAT BROWSER "%Failed to hardcopy ~A -- Can't convert a ~A file to
            format ~A" ITEM FILETYPE PRINTFILETYPE))))))
)

```

; Result is (SOURCE DESTINATION)

(DEFINEQ

**(FB.EDITCOMMAND**

(LAMBDA (BROWSER KEY ITEM MENU OPTION)

; Edited 27-Feb-2021 19:07 by rmk;  
; Edited 1-Feb-88 19:00 by bvm:

```

(FB.ALLOW.ABORT BROWSER)
[for] FILE [in] (FB.SELECTEDFILES BROWSER) [bind] (*UPPER-CASE-FILE-NAMES* _ NIL)
[do] (SETQ FILE (FB.FETCHFILENAME FILE))
      (IF (DIRECTORYNAMEP FILE)
          THEN (FB.BROWSECOMMAND BROWSER)
          ELSEIF (GETD 'OPENTEXTSTREAM)
                 THEN (FB.EDITCOMMAND.ONEFILE BROWSER FILE OPTION ITEM MENU)
                 ELSE (FB.FASTSEECOMMAND BROWSER KEY ITEM MENU))))

```

**(FB.EDITCOMMAND.ONEFILE**

(LAMBDA (BROWSER FILE OPTION ITEM MENU)

; Edited 4-Nov-2023 23:55 by rmk  
; Edited 19-Sep-2021 18:07 by rmk;  
; Edited 27-Feb-2021 20:07 by rmk;  
; Edited 1-Feb-88 19:00 by bvm:

;; Called when we know that FILE is a file, not a directory, and that TEDIT exists. If OPTION is READONLY, we don't want to edit, just view. .  
;; We clear the shade stuff here because we don't want the FB to come up on top of our see/edit region. Don't factor to the end because then it is  
;; too late--the TEDIT window was up and then buried. (If TEDIT had a don'topen option, we could set things up, then change the shade, then  
;; open. We could also do the manufactured title on the window before it shows.

```

(CL:UNLESS OPTION (SETQ OPTION FB.DEFAULT.EDITOR)
                 ; Default editor is TEDIT.
                 ;; Unshade the item before we create the TEDIT window, and tell FB.FINISH.COMMAND that we did that. That way, the FB window won't pop up
                 ;; on top.
                 (SHADEITEM ITEM MENU FB.ITEMUNSELECTEDSHADE)
                 (PUTMENUPROP MENU 'ITEMSHADE (CONS ITEM FB.ITEMUNSELECTEDSHADE)))
;; The particular item may be a subitem of the EDIT or SEE menu item, in which case we want to unshade that too. Seems a little bruteforce
(CL:UNLESS (MEMBER ITEM (FETCH (MENU ITEMS) OF MENU))
           (FOR I IN (FETCH (MENU ITEMS) OF MENU) WHEN (MEMBER ITEM (CDR (SASSOC 'SUBITEMS I)))
             DO (SHADEITEM I MENU FB.ITEMUNSELECTEDSHADE)
                (PUTMENUPROP MENU 'ITEMSHADE (CONS I FB.ITEMUNSELECTEDSHADE))))
(CL:MULTIPLE-VALUE-BIND (IGNORE CONDITION)
  (IGNORE-ERRORS (SELECTQ OPTION
                        (READONLY ([for] SM [in] FB.SEE.METHODS [when] (APPLY* (CAR SM)
                                        FILE)
                                     [do] (RETURN (APPLY* (CADR SM)
                                                            FILE))
                                     [finally] (RETURN (TEDIT-SEE FILE))))))
  (LISP
   ; Original code allowed OPTION=NIL in thie branch, but NIL
   ; should have been coerced to TEDIT above.
   ;; Asks to load prop and edits the coms, presumably with SEDIT. We really don't want to use a text editor
   ;; on a source file.
   (IF (LISPOURCEFILEP FILE)
       THEN (FB.EDITLISPFILE FILE BROWSER)
       ELSE (FB.PROMPTW.FORMAT BROWSER "Failed because not a Lisp source file")))
  (PROGN
   ;; Might just be a call to TEDIT (if OPTION = TEDIT)
   (CL:FUNCALL OPTION (MKATOM FILE))))))

```

([if] CONDITION

|then| (FB.PROMPTW.FORMAT BROWSER "Failed because ~A" CONDITION))))

**(FB.EDITLISPPFILE**

(LAMBDA (FILE BROWSER)

; Edited 21-Feb-2021 17:29 by rmk;  
; Edited 28-Jan-88 00:38 by bvm

(PROG (ROOT)  
(COND

((OR (NOT (STRING-EQUAL (CDAR (GETPROP (SETQ ROOT (U-CASE (ROOTFILENAME FILE)))  
'FILEDATES))

FILE))  
(NOT (GET ROOT 'FILE))  
(NOT (BOUNDP (FILECOMS ROOT))))

(FB.PROMPTW.FORMAT BROWSER "The file ~A is not loaded or is not current." FILE)  
(COND

((MOUSECONFIRM (CONCAT "(LOAD ' " FILE " 'PROP)? " )  
NIL  
(|fetch| (FILEBROWSER PROMPTWINDOW) |of| BROWSER))  
(EXEC-EVAL `(LOAD ',FILE 'PROP)))  
(T (RETURN))))  
(RESETFORM (TTYDISPLAYSTREAM PROMPTWINDOW)  
(ED ROOT '(FILES :DONTWAIT))))))

**(FB.BROWSECOMMAND**

(LAMBDA (BROWSER KEY ITEM MENU OPTION)

; Edited 20-Feb-2021 20:10 by rmk;  
; Edited 1-Feb-88 18:31 by bvm

::: view selected file by sprouting a recursive file browser on it

(FB.ALLOW.ABORT BROWSER)

(|for| FILE |in| (FB.SELECTEDFILES BROWSER) |bind| (DEPTH \_ (|fetch| (FILEBROWSER FBDEPTH) |of| BROWSER))  
NAME

|do|  
(SETQ NAME (FB.FETCHFILENAME FILE))  
(|if|

(OR  
(FB.DIRECTORYP FILE)  
(AND  
(NOT (|fetch| (FILEBROWSER NSPATTERN?) |of| BROWSER))  
(LET\*  
((FIELDS (UNPACKFILENAME.STRING NAME NIL NIL 'TENEX))  
(NAMETAILED (MEMB 'NAME FIELDS))  
INTERESTING SUBDIR MAINDIR)

; File is not syntactically a directory. Perhaps the device  
; returned foo.;1 instead of foo>. We know ns servers don't do  
; this.

(|for| TAIL |on| NAMETAILED |by| (CDDR TAIL)  
|do| (|if| (OR (EQ 0 (NCHARS (CADR TAIL)))  
(AND (EQ (CAR TAIL)  
'VERSION)  
(|if| (NEQ (MKATOM (CADR TAIL))  
1)  
|then|  
(RETURN NIL)  
|else| T)))

; It has a version--most unlikely for a directory

|then| (RPLACA (CDR TAIL)  
NIL)  
|else| (SETQ INTERESTING T))

; turn empty or boring fields into omitted fields

|finally| (SETQ FIELDS (LDIFF FIELDS NAMETAILED))  
(|if| INTERESTING

|then| ;; Would like just to do (CL:APPLY (function packfilename.string) (nconc fields '(SUBDIRECTORY subdir))), but  
;; PACKFILENAME.STRING doesn't seem to know about unix.

(SETQ MAINDIR (LISTGET FIELDS 'DIRECTORY))  
(SETQ SUBDIR (CL:APPLY (FUNCTION PACKFILENAME.STRING)  
NAMETAILED))  
(LISTPUT FIELDS 'DIRECTORY

(|if| (NULL MAINDIR)  
|then| SUBDIR  
|else| (CONCAT MAINDIR (|if| (STRPOS "/" MAINDIR)  
|then| "/"

|elseif| (STRPOS ">" MAINDIR)  
|then| ">"

|elseif| (EQ (GETHOSTINFO (LISTGET FIELDS  
'HOST))  
'OSTYPE)

'UNIX)

|then|  
; Resort to GETHOSTINFO only if the name hasn't given it away  
; yet.  
"/"

|else| ">")

SUBDIR))))  
(RETURN (DIRECTORYNAMEP (SETQ NAME (CL:APPLY (FUNCTION PACKFILENAME.STRING)  
FIELDS))))))

|then| (ADD.PROCESS ` (, (FUNCTION FILEBROWSER)

```

        ',NAME
        ',(MAPCAR ((|fetch| (FILEBROWSER INFODISPLAYED) |of| BROWSER)
                  (FUNCTION CAR)
                  ,@(AND DEPTH `(' (:DEPTH ,DEPTH))))))
|else| (FB.PROMPTW.FORMAT BROWSER "~A is not a directory" NAME))))
)
(DEFINEQ
(FB.FASTSEECOMMAND
(LAMBDA (BROWSER KEY ITEM MENU UNFORMATTED) ; Edited 30-Aug-94 19:46 by jds
  (PROG ((*UPPER-CASE-FILE-NAMES* NIL)
        FILELIST SEEWINDOW)
    (OR (SETQ FILELIST (FB.SELECTEDFILES BROWSER))
        (RETURN))
    (FB.ALLOW.ABORT BROWSER)
    (COND
      ((AND (NOT (WINDOWP (SETQ SEEWINDOW ((|fetch| (FILEBROWSER SEEWINDOW) |of| BROWSER))))
            (FOR FILE IN FILELIST THEREIS
              ;; Only need a SEE window if there's going to be a file to really SEE, as opposed to
              ;; directories to browse.
              (OR (UNPACKFILENAME (FB.FETCHFILENAME FILE)
                                  'NAME)
                  (UNPACKFILENAME (FB.FETCHFILENAME FILE)
                                  'EXTENSION))))
                ; Create the SEE window
                (SETQ SEEWINDOW (CREATEW NIL "SEE window"))
                (DSPSCROLL T SEEWINDOW)
                (|replace| (FILEBROWSER SEEWINDOW) |of| BROWSER |with| SEEWINDOW)
                (WINDOWPROP SEEWINDOW 'PAGEFULLFN (FUNCTION FB.SEEFULLFN))
                (WINDOWADDPROP SEEWINDOW 'CLOSEFN (FUNCTION (LAMBDA (W)
                                                            (WINDOWPROP W 'INUSE NIL)
                                                            (DEL.PROCESS (WINDOWPROP W 'PROCESS))))))
                (RESETSAVE NIL (LIST (FUNCTION (LAMBDA (WINDOW)
                                                (WINDOWPROP WINDOW 'PROCESS NIL)
                                                ; Remove process attached here by ttydisplaystream
                                                (LET ((BUTTONS (WINDOWPROP WINDOW (WINDOWPROP WINDOW 'MORETYPE))))
                                                    (|if| (AND BUTTONS (OPENWP BUTTONS))
                                                        |then| ; If More button still open, detach it
                                                            (DETACHWINDOW BUTTONS)
                                                            (CLOSEW BUTTONS))))))
                                                SEEWINDOW))
                (TTYDISPLAYSTREAM SEEWINDOW) ; Has to be our TTYDISPLAYSTREAM in order for page holding
                ; to work
                (|for| TAIL |on| FILELIST |do| (CL:CATCH :NEXT
                                                (FB.FASTSEE.ONEFILE BROWSER (FB.FETCHFILENAME (CAR TAIL))
                                                                    SEEWINDOW UNFORMATTED (CDR TAIL))))))
    ))
(FB.FASTSEE.ONEFILE
(LAMBDA (BROWSER FILE WINDOW UNFORMATTED MORE) ; Edited 29-May-2024 15:28 by mth
                                                ; Edited 21-Feb-2021 14:46 by rmk:
                                                ; Edited 20-Nov-2000 14:23 by rmk:
                                                ; Edited 19-Aug-91 13:06 by jds
  (COND
    ((DIRECTORYNAMEP FILE)
     ;; We're trying to SEE a directory. Browse it instead.
     (FB.BROWSECOMMAND BROWSER))
    (T ;; We're really browsing a file here, so SEE it.
     (CLEARW WINDOW)
     (WINDOWPROP WINDOW 'TITLE (CONCAT "Viewing " FILE))
     (CL:MULTIPLE-VALUE-BIND (STREAM CONDITION)
       (IGNORE-ERRORS (OPENSTREAM FILE 'INPUT NIL '((TYPE TEXT)
                                                       (SEQUENTIAL T))))
       (|if| CONDITION
         |then| ;; Failed on this file. If this was the only file, the message can be a little more terse (which is desirable, because the typical
                ;; message is "File not found xxx")
                (FB.PROMPTW.FORMAT BROWSER "~&~:[Failed~;~:*Couldn't see ~A~] because ~A"
                (AND MORE FILE)
                CONDITION)
         |else| (RESETLST
                (RESETSAVE NIL (LIST (FUNCTION (LAMBDA (STREAM WINDOW)
                                                (AND RESETSTATE (OPENWP WINDOW)
                                                (WINDOWPROP WINDOW 'TITLE
                                                (CONCAT (WINDOWPROP WINDOW 'TITLE)
                                                         " -- " "Aborted"))
                                                (CLOSEF STREAM)))
                (WINDOWPROP WINDOW 'MORETYPE (COND
                (MORE 'YETMOREBUTTONS)
                (T 'LASTMOREBUTTONS)))
                (COND

```

```

      (UNFORMATTED (COPYCHARS STREAM WINDOW))
      (T (PFCOPYBYTES STREAM WINDOW))
      (WINDOWPROP WINDOW 'TITLE (CONCAT (WINDOWPROP WINDOW 'TITLE)
      " -- " "Finished"))
      (COND
      (MORE
      (FB.SEEFULLFN (WINDOWPROP WINDOW 'DSP)
      'FINISHEDMOREBUTTONS)))))))))

```

**(FB.SEEFULLFN**

(LAMBDA (DSP PROP) (\* |bvm:| "18-Sep-85 23:29")

;; PAGEFULLFN for a fast SEE window

```

      (LET* ((WINDOW (WFROMDS DSP))
      (BUTTONS (WINDOWPROP WINDOW (OR PROP (SETQ PROP (WINDOWPROP WINDOW 'MORETYPE))))))
      (EVENT (WINDOWPROP WINDOW 'MOREEVENT)))
      (COND
      ((NOT BUTTONS)
      (SETQ BUTTONS ((create| MENU
      ITEMS _ (SELECTQ PROP
      (YETMOREBUTTONS
      ' ("More" MORE "View another screenfull of the file")
      (" Next File " NEXT "Abort view of this file, go on to
      next one")
      ("Abort" ABORT "Abort viewing of this and any further
      files")))
      (FINISHEDMOREBUTTONS
      ' (" Next File " NEXT "Go on to view the next file")
      ("Abort" ABORT "Abort the SEE command -- see no more
      files")))
      ' (" More " MORE "View another screenfull of the file")
      (" Abort " ABORT "Abort view; allow this window to be
      re-used"))
      MENUROWS _ 1
      WHENSELECTEDFN _ (FUNCTION FB.SEEBUTTONFN)
      CENTERFLG _ T))
      (SETQ BUTTONS (ADDMENU BUTTONS (CREATEW (CREATEREGION 0 0 (WIDTHIFWINDOW (|fetch| (MENU IMAGEWIDTH)
      |of| BUTTONS)
      FB.MORE.BORDER)
      (HEIGHTIFWINDOW (|fetch| (MENU IMAGEHEIGHT)
      |of| BUTTONS)
      NIL FB.MORE.BORDER))
      NIL FB.MORE.BORDER T)
      NIL T))
      (WINDOWPROP WINDOW PROP BUTTONS)))
      (COND
      ((NOT EVENT)
      (WINDOWPROP WINDOW 'MOREEVENT (SETQ EVENT (CREATE.EVENT (WINDOWPROP WINDOW 'TITLE))))))
      (ATTACHWINDOW BUTTONS WINDOW (COND
      ((GREATERP (|fetch| (REGION HEIGHT) |of| (WINDOWPROP BUTTONS 'REGION))
      (|fetch| (REGION BOTTOM) |of| (WINDOWPROP WINDOW 'REGION)))
      'TOP)
      (T 'BOTTOM))
      ' LEFT)
      (|do| (TOTOPW BUTTONS)
      (AWAIT.EVENT EVENT) |repeatuntil| (WINDOWPROP WINDOW 'MOREOK NIL))))))

```

**(FB.SEEBUTTONFN**

(LAMBDA (ITEM MENU) ; Edited 28-Jan-88 00:05 by bvm

;;; WHENSELECTEDFN for the More/Abort menu

```

      (LET* ((MENUW (WFROMMENU MENU))
      (WINDOW (MAINWINDOW MENU)))
      (DETACHWINDOW MENUW) ; Take the buttons down
      (CLOSEW MENUW)
      (SELECTQ (CADR ITEM)
      (MORE ; Notify pagefullfn that it can continue
      (WINDOWPROP WINDOW 'MOREOK T)
      (NOTIFY.EVENT (WINDOWPROP WINDOW 'MOREEVENT)))
      (NEXT ; Throw to the loop that is displaying each file
      (PROCESS.EVAL (WINDOWPROP WINDOW 'PROCESS)
      ' (CL:THROW :NEXT)))
      (ABORT ; Kill it
      (DEL.PROCESS (WINDOWPROP WINDOW 'PROCESS)))
      (SHOULDNT))))

```

(DEFINEQ

**(FB.LOADCOMMAND**

(LAMBDA (BROWSER KEY ITEM MENU LOADOP) (\* |bvm:| "18-Sep-85 17:16")

```

      (LET ((FILES (FB.SELECTEDFILES BROWSER)))
      (AND FILES (ADD.PROCESS (LIST (FUNCTION FB.OPERATE.ON.FILES)

```

```

(KWOTE (OR LOADOP (FUNCTION LOAD)))
(KWOTE FILES))
' NAME
' LOAD
' BEFOREEXIT
' DON\' T))))

```

**(FB.COMPILECOMMAND**

```

(LAMBDA (BROWSER KEY ITEM MENU COMPILEOP) ; Edited 5-Mar-87 17:39 by bvm:
  (LET ((FILES (FB.SELECTEDFILES BROWSER)))
    (AND FILES (ADD.PROCESS (LIST (FUNCTION FB.OPERATE.ON.FILES)
      (KWOTE (OR COMPILEOP *DEFAULT-CLEANUP-COMPILER*))
      (KWOTE FILES))
      ' NAME
      ' COMPILE
      ' BEFOREEXIT
      ' DON\' T))))))

```

**(FB.OPERATE.ON.FILES**

```

(LAMBDA (FN FILELIST) ; Edited 4-Feb-88 15:14 by bvm:
  (LET (LDFLG FORMS)
    (SELECTQ FN
      ((PROP SYSLOAD)
       (SETQ LDFLG FN)
       (SETQ FN 'LOAD))
      NIL)
    (SETQ FORMS (|for| FILEENTRY |in| FILELIST
      |collect| `(,FN ', (FB.FETCHFILENAME FILEENTRY)
        ,@(AND LDFLG `(' ,LDFLG))))))
    (EXEC-EVAL (|if| (CDR FORMS)
      |then| (CONS 'PROGN FORMS)
      |else| (CAR FORMS)))
    (CLOSEW (TTYDISPLAYSTREAM))))))
)

```

(DEFINEQ

**(FB.UPDATECOMMAND**

```

(LAMBDA (BROWSER) ; (* |bvm:| "27-Sep-85 12:30")
  (COND
    ((FB.MAYBE.EXPUNGE BROWSER ' |Recompute|)
     (FB.UPDATEBROWSERITEMS BROWSER))))

```

**(FB.FIX-DIRECTORY-DATES**

```

(LAMBDA (BROWSER) ; Edited 23-Nov-2021 12:15 by rmk:
  ; Edited 21-Aug-2021 23:33 by rmk:
  ;; FILEDATE returns the source-file date of a compiled file. We have to call with CFLG T to be sure.
  (FOR F FD CHANGE IN (FILDIR (FETCH (FILEBROWSER PATTERN) OF BROWSER))
    WHEN (SETQ FD (OR (FILEDATE F T)
      (FILEDATE F)))
    UNLESS (IEQP (SETQ FD (IDATE FD))
      (GETFILEINFO F 'ICREATIONDATE))
    DO (SETQ CHANGE T)
      (SETFILEINFO F 'ICREATIONDATE FD)
    FINALLY (CL:WHEN CHANGE (FB.UPDATECOMMAND BROWSER))))))

```

**(FB.MAYBE.EXPUNGE**

```

(LAMBDA (BROWSER COMMAND) ; Edited 22-Feb-2021 12:33 by rmk:
  (* |bvm:| "27-Sep-85 12:30")

```

;;; If BROWSER has files marked for deletion, ask whether user wants to expunge them. Returns T if it is okay to proceed, NIL if not (user aborted or expunge failed)

```

(COND
  ((EQ (|fetch| (FILEBROWSER DELETEDFILES) |of| BROWSER)
    0)
   T)
  (T (FB.PROMPTWPRINT BROWSER "Some files are marked for deletion.
  Do you want to expunge them first?"
  (SELECTQ (MENU (FB.EXPUNGE?.MENU))
    (EXPUNGE (FB.EXPUNGECOMMAND BROWSER NIL NIL NIL COMMAND)) ; Do expunge in another process, not here in mouse
    (NOEXPUNGE T)
    NIL))))))

```

**(FB.UPDATEBROWSERITEMS**

```

(LAMBDA (BROWSER) ; Edited 30-Aug-94 19:46 by jds
  (RESETLST
    (PROG ((WINDOW (|fetch| (FILEBROWSER BROWSERWINDOW) |of| BROWSER))
      (TBROWSER (|fetch| (FILEBROWSER TABLEBROWSER) |of| BROWSER))

```

```

(FONT FB.BROWSERFONT)
PATTERN INFOWANTED FILEGENERATOR FILENAME NOW INDEX WIDENED CONDITION)
(FB.ALLOW.ABORT BROWSER)
(COND
  ((SETQ PATTERN (|fetch| (FILEBROWSER PATTERN) |of| BROWSER)))
  ((SETQ PATTERN (FB.GET.NEWPATTERN BROWSER)) ; Didn't have a pattern before--got one now
   (FB.SETNEWPATTERN BROWSER PATTERN))
  (T ; Refused to give me a pattern
   (RETURN)))
(PROGN ; Restore browser to empty state--clear the counter window, set
      ; the title, remove any items, reset counters.
  (|replace| (FILEBROWSER INFODISPLAYED) |of| BROWSER
   |with| (SETQ INFOWANTED
          (|for| SPEC |in| FB.INFO.FIELDS |bind| (WANTED _ (|fetch| (FILEBROWSER INFOMENUCHOICES)
                                                                    |of| BROWSER))
          W PROTO
          |when| (MEMB (|fetch| (INFOFIELD INFONAME) |of| SPEC)
                  WANTED)
          |collect| (SETQ SPEC (COPY SPEC))
                   (|if| (SETQ PROTO (|fetch| (INFOFIELD INFOPROTOTYPE) |of| SPEC))
                        |then| ; Have prototypical example, use it to get better width estimate.
                          (SETQ W (STRINGWIDTH PROTO FONT))
                          (|replace| (INFOFIELD INFOWIDTH) |of| SPEC
                                   |with| (+ W (TIMES 2 (CHARWIDTH (CHARCODE X)
                                                                    FONT))))
                          (|if| (LISTP (|fetch| (INFOFIELD INFOFORMAT) |of| SPEC))
                               |then| (RPLACA (CDR (|fetch| (INFOFIELD INFOFORMAT)
                                                            |of| SPEC))
                                               W)))
                   SPEC))
  (FB.SET.BROWSER.TITLE BROWSER)
  (CLEARW (|fetch| (FILEBROWSER COUNTERWINDOW) |of| BROWSER))
  (CLEARW (|fetch| (FILEBROWSER HEADINGWINDOW) |of| BROWSER))
      ; Clear header window in case it has been scrolled.
  (TB.REPLACE.ITEMS TBROWSER NIL)
  (|replace| (FILEBROWSER FBREADY) |of| BROWSER |with| NIL)
  (TB.SET.FONT TBROWSER FONT)
  (|replace| (FILEBROWSER BROWSERFONT) |of| BROWSER |with| FONT)
  (FB.SET.DEFAULT.NAME.WIDTH BROWSER)
  (|replace| (FILEBROWSER DELETEDFILES) |of| BROWSER
   |with| (|replace| (FILEBROWSER DELETEDPAGES) |of| BROWSER
                  |with| (|replace| (FILEBROWSER TOTALPAGES) |of| BROWSER
                                  |with| (|replace| (FILEBROWSER TOTALFILES) |of| BROWSER |with| 0))))
  (|replace| (FILEBROWSER SORTMENU) |of| BROWSER |with| (|replace| (FILEBROWSER PATTERNPARSED?)
                                                                |of| BROWSER |with| NIL)))
  (|if| (SETQ INDEX (OR (CL:POSITION 'SIZE INFOWANTED :KEY (FUNCTION CAR))
                      (CL:POSITION 'LENGTH INFOWANTED :KEY (FUNCTION CAR))))
       |then| (|replace| (FILEBROWSER SIZEINDEX) |of| BROWSER |with| INDEX))
  (|replace| (FILEBROWSER PAGECOUNT?) |of| BROWSER |with| (AND INDEX (CAR (CL:NTH INDEX INFOWANTED))))
  (PROGN (|replace| (FILEBROWSER NOSUBDIRECTORIES) |of| BROWSER |with| NIL)
        (|replace| (FILEBROWSER SORTATTRIBUTE) |of| BROWSER |with| NIL)
        (|replace| (FILEBROWSER SORTBY) |of| BROWSER |with| (FUNCTION FB.NAMES.DECREASING.VERSION)))
  (CL:MULTIPLE-VALUE-SETQ (FILEGENERATOR CONDITION)
    (IGNORE-ERRORS (LET* ((DESIREDPROPS (MAPCAR INFOWANTED (FUNCTION CAR)))
                          (NSP (|fetch| (FILEBROWSER NSPATTERN?) |of| BROWSER))
                          (DEPTH (OR (|fetch| (FILEBROWSER FBDEPTH) |of| BROWSER)
                                      (|if| NSP
                                           |then| ; FILING.ENUMERATION.DEPTH is significant for NS servers
                                             FILING.ENUMERATION.DEPTH)))
                          (FILING.ENUMERATION.DEPTH (OR DEPTH FILING.ENUMERATION.DEPTH)))
                    (DECLARE (SPECVARS FILING.ENUMERATION.DEPTH))
                    (FB.PROMPTW.FORMAT BROWSER "~%Enumerating ~A ~@[to depth ~D ~]..."
                                       PATTERN (FIXP DEPTH))
                    (|if| (AND NSP (|fetch| (FILEBROWSER PAGECOUNT?) |of| BROWSER)
                          (OR DEPTH (NOT (UNPACKFILENAME.STRING PATTERN 'DIRECTORY))))
                        |then| ; Ask for SUBTREE.SIZE also, so we can give page estimates of
                              ; subdirectories, or in the case of enumerating a host, the
                              ; top-level directories
                              (|push| DESIREDPROPS 'SUBTREE.SIZE))
                    (|replace| (FILEBROWSER FBDISPLAYEDDEPTH) |of| BROWSER
                              |with| (|replace| (FILEBROWSER FBCOMPUTEDDEPTH) |of| BROWSER
                                              |with| (OR (FIXP DEPTH)
                                                       0))))
                    (\\GENERATEFILES PATTERN DESIREDPROPS '(SORT RESETLIST))))))
  (|if| CONDITION
       |then| (FB.PROMPTW.FORMAT BROWSER "Failed because ~A" CONDITION)
       (RETURN))
  (SETQ NOW (FB.DATE)) ; Time as of which the enumeration is reasonably valid
  (FB.HEADINGW.DISPLAY BROWSER (|fetch| (FILEBROWSER HEADINGWINDOW) |of| BROWSER))
  (|while| (SETQ FILENAME (\\GENERATENEXTFILE FILEGENERATOR)) |bind| LASTFILEDATA NEWFILEDATA
          PREVGROUPODATA OTHERFILES
  |do| ; For each file, create an FBFILEDATA object. Gather together files with the same name, different version, so that we can
      ; sort versions. Thus, the display is always (at least) one file behind the generator: LASTFILEDATA is the first item of a
      ; given name, OTHERFILES are the remaining versions. PREVGROUPODATA is representative of the previous group.
  (COND
    ((LISTP FILENAME) ; Old kind of generator. Extinct?

```



```

      (SETQ FILENAME (CONCATCODES FILENAME))))
    (SETQ NEWFILEDATA (FB.CREATE.FILEBUCKET BROWSER FILENAME (FB.GETALLFILEINFO BROWSER
      FILEGENERATOR INFOWANTED)
      LASTFILEDATA))
    (COND
      ((AND LASTFILEDATA (EQ (|fetch| (FBFILEDATA VERSIONLESSNAME) |of| LASTFILEDATA)
        (|fetch| (FBFILEDATA VERSIONLESSNAME) |of| NEWFILEDATA)))
        ; This file same name as previous one, so save it in case we
        ; need to sort versions. Note that FB.CREATE.FILEBUCKET
        ; canonicalizes the VERSIONLESSNAME, so EQ suffices
        (|push| OTHERFILES NEWFILEDATA))
      (T (COND
          ((AND LASTFILEDATA (OR (NOT (|fetch| (FBFILEDATA DIRECTORYFILE) |of| LASTFILEDATA))
            (NOT (STROPOS (|fetch| (FBFILEDATA FILENAME) |of| LASTFILEDATA)
              (|fetch| (FBFILEDATA FILENAME) |of| NEWFILEDATA)
              1 NIL T NIL UPPERCASEARRAY))))
            ;; Add the previous group we have accumulated. Second clause says not to add a line for a subdirectory file
            ;; which is not a leaf, i.e., for which there are files below it in the enumeration (it would be nice if NS filing did
            ;; this filtering itself).
            (FB.ADD.FILEGROUP TBROWSER BROWSER LASTFILEDATA OTHERFILES PREVGROUPDATA)
            (SETQ PREVGROUPDATA LASTFILEDATA)))
          (SETQ OTHERFILES NIL)
          (SETQ LASTFILEDATA NEWFILEDATA)))
      |finally| (AND LASTFILEDATA (FB.ADD.FILEGROUP TBROWSER BROWSER LASTFILEDATA OTHERFILES
        PREVGROUPDATA)))
    (COND
      ((EQ (TB.NUMBER.OF.ITEMS TBROWSER)
        0)
        (FB.PROMPTWPRINT BROWSER 'CLEAR "No files in group " PATTERN))
      (T (FB.PROMPTWPRINT BROWSER 'done)
        (SETQ WIDENED (FB.MAYBE.WIDEN.NAMES BROWSER))
        (COND
          ((OR (FB.ADJUST.DATE.WIDTH BROWSER INFOWANTED)
            WIDENED)
            (FB.HEADINGW.DISPLAY BROWSER (|fetch| (FILEBROWSER HEADINGWINDOW) |of| BROWSER))
            (TB.REDISPLAY.ITEMS (|fetch| (FILEBROWSER TABLEBROWSER) |of| BROWSER))))))
      (FB.SET.BROWSER.TITLE BROWSER NOW)
      (|replace| (FILEBROWSER FBREADY) |of| BROWSER |with| T)
      (FB.DISPLAY.COUNTERS BROWSER))))

```

**(FB.DATE**

```

(LAMBDA NIL ; Edited 16-Oct-2021 14:06 by rmk:
  ;; RMK: Tried to decode and rearrange with Y2K error. Now just pass it through. It used to include the short day of week, that seems silly. It is
  ;; today's date...or at least the date of the last recompute
  ;; (DATEFORMAT NO.LEADING.SPACES NO.SECONDS DAY.OF.WEEK DAY.SHORT)
  ;; I think this only goes in the title bar, which is perhaps odd in itself.
  (DATE (DATEFORMAT NO.LEADING.SPACES NO.SECONDS))))

```

**(FB.ADJUST.DATE.WIDTH**

```

(LAMBDA (BROWSER INFOWANTED) ; Edited 30-Aug-94 19:40 by jds
  ;; Adjust the expected width field of any date fields (other than the last) to reflect the width of actual dates this device returns. Returns T if it did
  ;; anything.
  (|for| TAIL |on| INFOWANTED |as| INDEX |from| 0 |while| (CDR TAIL) |bind| (FONT _ (|fetch| (FILEBROWSER BROWSERFONT)
    |of| BROWSER))
    SPEC RESULT
  |when| (AND (EQ (|fetch| (INFOFIELD INFOFORMAT) |of| (SETQ SPEC (CAR TAIL)))
    'DATE)
    (TB.FIND.ITEM (|fetch| (FILEBROWSER TABLEBROWSER) |of| BROWSER)
      (FUNCTION (LAMBDA (TBROWSER ITEM)
        (|if| (SETQ ITEM (CL:NTH INDEX (|fetch| (FBFILEDATA FILEINFO)
          |of| (|fetch| TIDATA |of| ITEM))))
          |then|
            ;; Got a sample date. Assuming all dates have the same number of characters, compute a width that
            ;; fits this date plus a couple spaces. Computation here for variable-width font assumes "MAY" is
            ;; about as wide as you get, and finesses the issue of whether this date happens to start with leading
            ;; space and/or contain some especially skinny letters.
            (|replace| (INFOFIELD INFOWIDTH) |of| SPEC
              |with| (+ (STRINGWIDTH "XX99-MAY-88 99:99:99" FONT)
                (|if| (> (NCHARS ITEM)
                  18)
                  |then|
                    ; Have a time-zone, too, or something
                    (STRINGWIDTH (SUBSTRING ITEM 19)
                      FONT)
                  0)))
            |else| 0)))
    T))))
  |do| (SETQ RESULT T) |finally| (RETURN RESULT)))

```

**(FB.SET.BROWSER.TITLE**

```
(LAMBDA (BROWSER TIME) ; Edited 16-Oct-2021 14:10 by rmk:
  ;; (Re)display the title on BROWSER's window. If Time is supplied, it is the time at which the enumeration happened, and we include it in the title.
  ;; Title is not changed if user supplied own title.
  ;; RMK: Move the date over a bit, so that path stands out
  (COND
    ((NOT (|fetch| (FILEBROWSER FIXEDTITLE) |of| BROWSER))
      (WINDOWPROP (|fetch| (FILEBROWSER COUNTERWINDOW) |of| BROWSER)
        'TITLE
        (|if| TIME
          |then| (CONCAT (|fetch| (FILEBROWSER PATTERN) |of| BROWSER)
            " at " TIME)
          |else| (CONCAT (|fetch| (FILEBROWSER PATTERN) |of| BROWSER)
            " browser"))))))))
```

**(FB.MAYBE.WIDEN.NAMES**

```
(LAMBDA (BROWSER) (* |bvm:| "18-Oct-85 17:32")
```

;;; Examines the OVERFLOWWIDTHS field to see if we should widen the name area of the browser, showing everything else to the right. If it changes  
 ;;; the width, returns T so that caller knows whether to update display

```
(LET ((OVERFLOW (|fetch| (FILEBROWSER OVERFLOWWIDTHS) |of| BROWSER))
      (CURRENTSTART (|fetch| (FILEBROWSER INFOSTART) |of| BROWSER))
      THRESHOLD)
  (COND
    (OVERFLOW ; See if enough files were too wide for print spec
      (SETQ THRESHOLD (IMIN (IMAX (FIXR (FTIMES (|fetch| (FILEBROWSER TOTALFILES) |of| BROWSER)
        FB.OVERFLOW.MAXFRAC))
        1)
        FB.OVERFLOW.MAXABSOLUTE))
      (|for| PAIR |in| OVERFLOW |when| (AND (IGREATERP (CAR PAIR)
        CURRENTSTART)
        (LESSP (SETQ THRESHOLD (IDIFFERENCE THRESHOLD (CADR PAIR)))
          0))
        |do| ; Stop here! Any further than this and we would have more than
          ; the max files overflowing
          (|replace| (FILEBROWSER INFOSTART) |of| BROWSER |with| (CAR PAIR))
          (RETURN T))))))
```

**(FB.SET.DEFAULT.NAME.WIDTH**

```
(LAMBDA (BROWSER) (* |bvm:| "18-Oct-85 17:54")
```

```
(LET ((FONT (|fetch| (FILEBROWSER BROWSERFONT) |of| BROWSER))
      (|replace| (FILEBROWSER INFOSTART) |of| BROWSER |with| (IPLUS (|replace| (FILEBROWSER NAMEOVERHEAD)
        |of| BROWSER
        |with| (IPLUS (DSPLEFTMARGIN
          NIL
          (|fetch| (FILEBROWSER BROWSERWINDOW)
            |of| BROWSER))
          (CHARWIDTH (CHARCODE SPACE)
            FONT)
          (CHARWIDTH (CHARCODE \;)
            FONT)))
          FB.DEFAULT.NAME.WIDTH))
      (|replace| (FILEBROWSER DIGITWIDTH) |of| BROWSER |with| (CHARWIDTH (CHARCODE 8)
        FONT))
      (|replace| (FILEBROWSER OVERFLOWWIDTHS) |of| BROWSER |with| NIL)))
```

**(FB.CREATE.FILEBUCKET**

```
(LAMBDA (BROWSER FILENAME FILEINFO LASTFILEDATA) ; Edited 1-Feb-88 14:44 by bvm:
```

;;; Create a FBFILEDATA encapsulating FILENAME and its FILEINFO. If LASTFILEDATA is supplied, it is the filedata from the previous file parsed,  
 ;;; which we make use of to create canonical VERSIONLESSNAME fields.

```
(|if| (NOT (STRINGP FILENAME))
  |then| ; Some things are nicer if we force everything to be a string.
  (SETQ FILENAME (STRING FILENAME)))
(COND
  ((NULL (|fetch| (FILEBROWSER PATTERNPARSED?) |of| BROWSER))
    (FB.ANALYZE.PATTERN BROWSER FILENAME)))
  (LET ((STARTOFNAME (|fetch| (FILEBROWSER NAMESTART) |of| BROWSER))
        (NAMELENGTH (NCHARS FILENAME))
        (VERSION 0)
        (DEPTH 0)
        STARTOFSHORTNAME LASTDIR PREVDIR LASTNAMECHAR HASDIRPREFIX DIRP ATTR TEM NEWFILEDATA)
    (SETQ LASTNAMECHAR NAMELENGTH)
    (|bind| (DEC _ 1)
      CH |while| (DIGITCHARP (SETQ CH (NTHCHARCODE FILENAME LASTNAMECHAR)))
      |do| (|add| VERSION (TIMES (- CH (CHARCODE 0))
        DEC))
        (SETQ DEC (TIMES 10 DEC))
        (SETQ LASTNAMECHAR (SUB1 LASTNAMECHAR)))
    |finally| ; not a version char
    (COND
      ((EQ CH (CHARCODE \;)) ; Pull off the version from the end, so that we can sort with it, etc.
```

```

; Note that we assume that all devices have converted native
; syntax to Lisp here.
      (SETQ LASTNAMECHAR (SUB1 LASTNAMECHAR))
      (T (SETQ VERSION 0)
         (SETQ LASTNAMECHAR NIL)))
      (SETQ NEWFILEDATA (|if| (AND LASTFILEDATA (STRING-EQUAL (|fetch| (FBFILEDATA VERSIONLESSNAME) |of|
                                                                LASTFILEDATA
                                                                )
                                                                FILENAME :END2 (OR LASTNAMECHAR NAMELENGTH)))
                             |then|
                             (|create| FBFILEDATA |using| LASTFILEDATA)
                             |else| (|for| (N _ STARTOFNAME) |do| (SELCHARQ (NTHCHARCODE FILENAME (|add| N 1))
                                                                           (> /)
                                                                           (SETQ PREVDIR LASTDIR)
                                                                           (SETQ LASTDIR N)
                                                                           (|add| DEPTH 1))
                                                                           (\
                                                                           ; Next char is quoted
                                                                           (|add| N 1))
                                                                           (NIL (RETURN))
                                                                           NIL))
                             (|if| (EQ LASTDIR NAMELENGTH)
                                 |then|
                                 ; It's a directory name (e.g., with ns), so make the name be the
                                 ; last subdirectory
                                 (SETQ LASTDIR PREVDIR)
                                 (SETQ DIRP T)
                                 (|add| DEPTH -1))
                             (COND
                              (LASTDIR
                               ; We found a directory delimiter following the common directory
                               ; prefix of the pattern.
                               (SETQ HASDIRPREFIX T)
                               (SETQ STARTOFSHORTNAME (ADD1 LASTDIR))
                               ; Directoryless name starts here
                               (COND
                                ((NOT (|fetch| (FILEBROWSER NOSUBDIRECTORIES) |of| BROWSER))
                                 ; Use short name if allowed.
                                 (SETQ STARTOFNAME STARTOFSHORTNAME)))
                                (T (SETQ STARTOFSHORTNAME STARTOFNAME)))
                               ; Note optimization: SUBDIREND is zero (SUBDIRECTORY null)
                               ; when HASDIRPREFIX is NIL.
                               (|create| FBFILEDATA
                                       STARTOFNAME _ STARTOFNAME
                                       VERSIONLESSNAME _ (COND
                                                           (LASTNAMECHAR (SUBSTRING FILENAME 1 LASTNAMECHAR))
                                                           (T FILENAME))
                                       SUBDIREND _ (OR LASTDIR 0)
                                       STARTOFNAME _ STARTOFSHORTNAME
                                       HASDIRPREFIX _ HASDIRPREFIX
                                       DIRECTORYFILEP _ DIRP
                                       FILEDEPTH _ DEPTH)))
                              (|replace| (FBFILEDATA FILENAME) |of| NEWFILEDATA |with| FILENAME)
                              (|replace| (FBFILEDATA VERSION) |of| NEWFILEDATA |with| VERSION)
                              (|replace| (FBFILEDATA FILEINFO) |of| NEWFILEDATA |with| FILEINFO)
                              (|replace| (FBFILEDATA SIZE) |of| NEWFILEDATA |with| (AND (SETQ ATTR (|fetch| (FILEBROWSER PAGECOUNT?)
                                                                                               |of| BROWSER))
                                                                                       (SETQ TEM (CL:NTH (|fetch| (FILEBROWSER SIZEINDEX)
                                                                                               |of| BROWSER)
                                                                                               FILEINFO))
                                                                                       (SELECTQ ATTR
                                                                                       (LENGTH (FOLDHI TEM BYTESPERPAGE))
                                                                                       TEM))))
                              (FB.CHECK.NAME.LENGTH BROWSER NEWFILEDATA)
                              (COND
                               ((SETQ ATTR (|fetch| (FILEBROWSER SORTATTRIBUTE) |of| BROWSER))
                                (SETQ ATTR (CL:NTH (|fetch| (FILEBROWSER SORTINDEX) |of| BROWSER)
                                                    FILEINFO))
                                (COND
                                 ((AND ATTR (|fetch| (FILEBROWSER SORTBYDATE) |of| BROWSER))
                                  (SETQ ATTR (IDATE ATTR))))
                                 (|replace| (FBFILEDATA SORTVALUE) |of| NEWFILEDATA |with| ATTR)))
                               (NEWFILEDATA)))

```

**(FB.CHECK.NAME.LENGTH**  
(LAMBDA (BROWSER FILEDATA)

; Edited 25-Jan-88 15:44 by bvm

;;; Checks the name in FILEDATA to see if printing it would overflow the space set aside for the name column in the browser. If so, updates some  
;;; information that will help us decide later whether to expand the column

```

(LET ((PRINTLENGTH (+ (STRINGWIDTH (|fetch| (FBFILEDATA PRINTNAME) |of| FILEDATA)
                       (|fetch| (FILEBROWSER BROWSERFONT) |of| BROWSER))
                       (|fetch| (FILEBROWSER NAMEOVERHEAD) |of| BROWSER))))
      (COND
       ((>= PRINTLENGTH (|fetch| (FILEBROWSER INFOSTART) |of| BROWSER))
        ;; Name is longer than allotted space in browser. Shall we allot more space? Don't know until we're thru. For now, record a list of
        ;; elements (width occurrences), where each name is recorded in the closest entry

```

```
(LET ((OVERFLOW (|fetch| (FILEBROWSER OVERFLOWWIDTHS) |of| BROWSER))
      (SPACING (|fetch| (FILEBROWSER OVERFLOWSPACING) |of| BROWSER)))
      (COND
        ((OR (NULL OVERFLOW)
              (> PRINTLENGTH (CAAR OVERFLOW)))
         (|replace| (FILEBROWSER OVERFLOWWIDTHS) |of| BROWSER |with| (CONS (LIST PRINTLENGTH 1)
                                                                              OVERFLOW)))
         (T (|for| (TAIL _ OVERFLOW) |bind| PREVTAIL |when| (OR (NULL (SETQ TAIL (CDR (SETQ PREVTAIL
                                                                                               TAIL))))
                                                                (> PRINTLENGTH (CAR (CAR TAIL))))
              |do|
                ; Longer than some previously recorded length, so either add a
                ; new entry or bump the preceding one
                (COND
                  ((< PRINTLENGTH (- (CAR (CAR PREVTAIL))
                                     SPACING))
                   (RPLACD PREVTAIL (CONS (LIST PRINTLENGTH 1)
                                           TAIL)))
                   (T (|add| (CADR (CAR PREVTAIL))
                             1)))
                  (RETURN)))))))))
```

**(FB.ADD.FILEGROUP**

(LAMBDA (TBROWSER FBROWSER FIRSTDATA OTHERDATA PREVDATA) ; Edited 1-Feb-88 14:43 by bvm:  
 ;; Appends to FBROWSER the set of files FIRSTDATA plus each of OTHERDATA, all of which are known to have the same name save version  
 ;; number. PREVDATA is representative of the last item we inserted.

```
(COND
  ((AND (NOT (|fetch| (FILEBROWSER NOSUBDIRECTORIES) |of| FBROWSER))
        (NOT (|if| PREVDATA
                 |then| (EQ.DIRECTORYP PREVDATA FIRSTDATA)
                 |else| (NULL.DIRECTORYP FIRSTDATA))))
   ; The new files have a different subdirectory, so insert a
   ; non-selectable line item here
   (FB.INSERT.DIRECTORY TBROWSER FBROWSER FIRSTDATA))
  (COND
    (OTHERDATA ; More than one file to add, so sort versions
     (|for| ITEM |in| (SORT (|for| D |in| (CONS FIRSTDATA OTHERDATA) |collect| (|create| TABLEITEM
                                                                                               TIDATA _ D))
                           (FUNCTION FB.DECREASING.VERSION))
      |do| (FB.ADD.FILE TBROWSER FBROWSER ITEM))
     (T (FB.ADD.FILE TBROWSER FBROWSER (|create| TABLEITEM
                                                TIDATA _ FIRSTDATA))))))
```

**(FB.INSERT.DIRECTORY**

(LAMBDA (TBROWSER FBROWSER DATAWITHSUBDIR BEFOREITEM) ; Edited 25-Jan-88 17:13 by bvm  
 (TB.INSERT.ITEM TBROWSER (FB.MAKE.SUBDIRECTORY.ITEM FBROWSER DATAWITHSUBDIR  
 BEFOREITEM))

**(FB.MAKE.SUBDIRECTORY.ITEM**

(LAMBDA (FBROWSER DATAWITHSUBDIR) ; Edited 26-Jan-88 10:58 by bvm

;;; Creates a TABLEITEM containing a subdirectory line identifying the subdirectory in DATAWITHSUBDIR. If item has no subdirectory, we use the  
 ;; browser's pattern directory

```
(LET* ((SUBDIRECTORY (OR (|fetch| (FBFILEDATA SUBDIRECTORY) |of| DATAWITHSUBDIR)
                         (SUBSTRING (|fetch| (FILEBROWSER PATTERN) |of| FBROWSER)
                                     1
                                     (SUB1 (|fetch| (FILEBROWSER NAMESTART) |of| FBROWSER))))
      (DIRSTART (|fetch| (FILEBROWSER DIRECTORYSTART) |of| FBROWSER))
      (|create| TABLEITEM
        TIUNSELECTABLE _ T
        TIDATA _ (|create| FBFILEDATA
                          FILENAME _ SUBDIRECTORY
                          STARTOFFPNAME _ (|if| (<= DIRSTART (NCHARS SUBDIRECTORY))
                                                |then| DIRSTART
                                                |else| ; No directory--use whole name
                                                1)
                          VERSIONLESSNAME _ SUBDIRECTORY
                          DIRECTORYP _ T))))
```

**(FB.ADD.FILE**

(LAMBDA (TBROWSER FBROWSER ITEM BEFOREITEM) (\* |bvm:| "13-Oct-85 17:44")

;;; Inserts one file in TBROWSER / FBROWSER before item BEFOREITEM or at end if BEFOREITEM is NIL

```
(LET ((SIZE (|fetch| (FBFILEDATA SIZE) |of| (|fetch| TIDATA |of| ITEM)))
      (COND
        (SIZE (|add| (|fetch| (FILEBROWSER TOTALPAGES) |of| FBROWSER)
                    SIZE)))
      (|add| (|fetch| (FILEBROWSER TOTALFILES) |of| FBROWSER)
            1)
      (TB.INSERT.ITEM TBROWSER ITEM BEFOREITEM)))
```



```

(ADD1 SAMPLEHOSTEND)
NIL NIL T UPPERCASEARRAY)))

;; Anything before the first match of the pattern is assumed to be canonicalization added by the device
(SETQ PATTERN (CONCAT (SUBSTRING SAMPLE 1 (SUB1 STARTOFNAME))
(SUBSTRING PATTERN (ADD1 LASTPATDIR))))
((NOT (STREQUAL PATTERN (SETQ PATTERN (FB.CANONICALIZE.PATTERN PATTERN SAMPLE PATHOSTEND
SAMPLEHOSTEND LASTPATDIR))))
; Pattern didn't seem to match what came back, but we could
; canonicalize into something else
(GO RETRY))
(T
; Should only happen for devices without directories
(SETQ STARTOFNAME (ADD1 SAMPLEHOSTEND))
(COND
((OR (NEQ PATHOSTEND SAMPLEHOSTEND)
(NOT (STREQUAL (SUBSTRING PATTERN 1 PATHOSTEND)
(SUBSTRING SAMPLE 1 PATHOSTEND))))
; At least canonicalize the host part
(SETQ PATTERN (CONCAT (SUBSTRING SAMPLE 1 SAMPLEHOSTEND)
(SUBSTRING PATTERN (ADD1 PATHOSTEND)))))))))
(FB.SETNEWPATTERN BROWSER PATTERN)
(FB.SET.BROWSER.TITLE BROWSER)
(|replace| (FILEBROWSER PATTERNPARSED?) |of| BROWSER |with| T)
(|replace| (FILEBROWSER DIRECTORYSTART) |of| BROWSER |with| (ADD1 SAMPLEHOSTEND))
(|replace| (FILEBROWSER NAMESTART) |of| BROWSER |with| STARTOFNAME)))

```

**(FB.CANONICALIZE.PATTERN**

```

(LAMBDA (PATTERN SAMPLE PATHOSTEND SAMPLEHOSTEND LASTPATDIR) ; Edited 6-Jan-89 15:40 by bvm
;; Get the "canonical" version of PATTERN so that its apparent directory matches what is coming back from the server. E.g., {DSK} might become
;; {DSK}<LispFiles>, or {x/n}<-> might become {x/n}<usr>jones>.
(OR (SELCHARQ (NTHCHARCODE SAMPLE (|add| SAMPLEHOSTEND 1))
(< /) ; Good, there's a directory -- canonicalize it
(LET ((CANONICAL (DIRECTORYNAME (SUBSTRING PATTERN 1 (OR LASTPATDIR (SETQ LASTPATDIR
PATHOSTEND))))))
(AND CANONICAL (CONCAT CANONICAL (SUBSTRING PATTERN (ADD1 LASTPATDIR))))))
(PROGN ; File coming back has no directory, so there's nothing interesting
; to do
NIL))
PATTERN)))

```

**(FB.GETALLFILEINFO**

```

(LAMBDA (BROWSER GENERATOR ATTRIBUTES) ; Edited 1-Feb-88 15:50 by bvm
;; Returns a FILEINFO field for the given attribute specs
(|for| ATTR |in| ATTRIBUTES |bind| VALUE TREESIZE |collect| (SETQ VALUE (\GENERATEFILEINFO GENERATOR (CAR ATTR)))
(|if| (AND (EQ VALUE 0)
(|fetch| (FILEBROWSER NSPATTERN?) |of| BROWSER)
(FMEMB (CAR ATTR)
' (SIZE LENGTH))
(SETQ TREESIZE (\GENERATEFILEINFO GENERATOR
' SUBTREE.SIZE)))
|then|
;; This is an NS directory node, so get its subtree size, which is much more interesting than size,
;; which is always zero (directories have no data)
(SELECTQ (CAR ATTR)
(SIZE (FOLDHI TREESIZE BYTESPERPAGE))
(LENGTH TREESIZE)
(SHOULDNT))
|else| VALUE)))
)

```

(DEFINEQ

**(FB.SORT.VERSIONS**

```

(LAMBDA (ITEMS SORTFN) ; Edited 25-Jan-88 15:22 by bvm
```

;;; Sort ITEMS so that equal names are sorted by version according to SORTFN. Assumes that ITEMS are already sorted by name

```

(LET ((TAIL ITEMS)
PREVTAIL NEXTTAIL NEWTAIL THISNAME)
(|while| (CDR TAIL) |do| (COND
((STRING-EQUAL (SETQ THISNAME (|fetch| (FBFILEDATA VERSIONLESSNAME)
|of| (|fetch| TIDATA |of| (CAR TAIL))))
(|fetch| (FBFILEDATA VERSIONLESSNAME) |of| (|fetch| TIDATA
|of| (CADR TAIL))))
; Same name as next, so gather up all equal names
(SETQ NEXTTAIL (CDDR TAIL))
(|while| (AND NEXTTAIL (STRING-EQUAL THISNAME (|fetch| (FBFILEDATA
VERSIONLESSNAME)
|of| (|fetch| TIDATA
|of| (CAR NEXTTAIL))))))
|do| (SETQ NEXTTAIL (CDR NEXTTAIL))))

```

```

      (SETQ NEWTAIL (SORT (|until| (EQ TAIL NEXTTAIL) |collect| (|pop| TAIL))
                        SORTFN)) ; Now splice NEWTAIL into list between PREVTAIL and
                                ; NEXTTAIL
      (COND
        (PREVTAIL (RPLACD PREVTAIL NEWTAIL))
        (T (SETQ ITEMS NEWTAIL)))
      (COND
        ((SETQ TAIL NEXTTAIL)
         (RPLACD (SETQ PREVTAIL (LAST NEWTAIL))
                 NEXTTAIL)))
      (T (SETQ TAIL (CDR (SETQ PREVTAIL TAIL))))))
  ITEMS))

```

**(FB.DECREASING.VERSION**

(LAMBDA (X Y) (\* |bvm:| "13-Oct-85 17:53")

::: Comparefn for sorting a group of same named files by decreasing version. Null version considered high

```

(AND (NOT (NULL.VERSIONP (SETQ Y (|fetch| (FBFILEDATA VERSION) |of| (|fetch| TIDATA |of| Y))))
      (OR (NULL.VERSIONP (SETQ X (|fetch| (FBFILEDATA VERSION) |of| (|fetch| TIDATA |of| X))))
          (IGREATERP X Y))))

```

**(FB.INCREASING.VERSION**

(LAMBDA (X Y) (\* |bvm:| "13-Oct-85 17:55")

::: Comparefn for sorting a group of same named files by increasing version. Null version considered high

```

(OR (NULL.VERSIONP (SETQ Y (|fetch| (FBFILEDATA VERSION) |of| (|fetch| TIDATA |of| Y))))
    (AND (NOT (NULL.VERSIONP (SETQ X (|fetch| (FBFILEDATA VERSION) |of| (|fetch| TIDATA |of| X))))
         (ILESSP X Y))))

```

**(FB.NAMES.DECREASING.VERSION**

(LAMBDA (X Y) (\* |bvm:| "13-Oct-85 17:57")

::: Comparison function for sorting file names in alphabetical order, decreasing versions

```

(SELECTQ (ALPHORDER (|fetch| (FBFILEDATA VERSIONLESSNAME) |of| (SETQ X (|fetch| TIDATA |of| X)))
                (|fetch| (FBFILEDATA VERSIONLESSNAME) |of| (SETQ Y (|fetch| TIDATA |of| Y)))
          UPPERCASEARRAY)
  (LESSP T)
  (EQUAL (AND (NOT (NULL.VERSIONP (SETQ Y (|fetch| (FBFILEDATA VERSION) |of| Y))
                0))
          (OR (NULL.VERSIONP (SETQ X (|fetch| (FBFILEDATA VERSION) |of| X)))
              (IGREATERP X Y))))
  NIL))

```

**(FB.NAMES.INCREASING.VERSION**

(LAMBDA (X Y) (\* |bvm:| "13-Oct-85 17:54")

::: Comparison function for sorting file names in alphabetical order, increasing versions

```

(SELECTQ (ALPHORDER (|fetch| (FBFILEDATA VERSIONLESSNAME) |of| (SETQ X (|fetch| TIDATA |of| X)))
                (|fetch| (FBFILEDATA VERSIONLESSNAME) |of| (SETQ Y (|fetch| TIDATA |of| Y)))
          UPPERCASEARRAY)
  (LESSP T)
  (EQUAL (OR (NULL.VERSIONP (SETQ Y (|fetch| (FBFILEDATA VERSION) |of| Y))
            (AND (NOT (NULL.VERSIONP (SETQ X (|fetch| (FBFILEDATA VERSION) |of| X)))
                 (ILESSP X Y))))
  NIL))

```

**(FB.DECREASING.NUMERIC.ATTR**

(LAMBDA (X Y) (\* |bvm:| "13-Oct-85 17:44")

::: Comparison function for sorting file names in decreasing order of some numeric attribute. If values are equal, fall back on names decreasing version

```

(LET ((XVAL (OR (|fetch| (FBFILEDATA SORTVALUE) |of| (|fetch| TIDATA |of| X))
                0))
      (YVAL (OR (|fetch| (FBFILEDATA SORTVALUE) |of| (|fetch| TIDATA |of| Y))
                0))
      (OR (IGREATERP XVAL YVAL)
          (AND (NOT (IGREATERP YVAL XVAL))
               (FB.NAMES.DECREASING.VERSION X Y))))))

```

**(FB.INCREASING.NUMERIC.ATTR**

(LAMBDA (X Y) (\* |bvm:| "13-Oct-85 17:44")

::: Comparison function for sorting file names in increasing order of some numeric attribute. If values are equal, fall back on names decreasing version

```

(LET ((XVAL (OR (|fetch| (FBFILEDATA SORTVALUE) |of| (|fetch| TIDATA |of| X))
                0))
      (YVAL (OR (|fetch| (FBFILEDATA SORTVALUE) |of| (|fetch| TIDATA |of| Y))
                0))
      (OR (ILESSP XVAL YVAL)
          (AND (NOT (ILESSP YVAL XVAL))
               (FB.NAMES.INCREASING.VERSION X Y))))))

```

```

    0)))
  (OR (ILESSP XVAL YVAL)
    (AND (NOT (ILESSP YVAL XVAL))
      (FB.NAMES.DECREASING.VERSION X Y))))))

```

**(FB.ALPHABETIC.ATTR**

(LAMBDA (X Y)

(\* |bvm:| "20-Oct-85 18:07")

::: Comparison function for sorting file names in order of some textual attribute. If values are equal, fall back on names decreasing version

```

(SELECTQ (ALPHORDER (|fetch| (FBFILEDATA SORTVALUE) |of| (|fetch| TIDATA |of| X))
  (|fetch| (FBFILEDATA SORTVALUE) |of| (|fetch| TIDATA |of| Y))
  UPPERCASEARRAY)
  (LESSP T)
  (EQUAL (FB.NAMES.DECREASING.VERSION X Y))
  NIL))

```

)

(DEFINEQ

**(FB.SORTCOMMAND**

(LAMBDA (BROWSER)

; Edited 29-Jan-88 12:47 by bvm

```

  (PROG ((TBROWSER (|fetch| (FILEBROWSER TABLEBROWSER) |of| BROWSER))
    (HADNOSUBDIRS (|fetch| (FILEBROWSER NOSUBDIRECTORIES) |of| BROWSER))
    SORTATTR SORT# SORTFN REVERSED ALLFILES DATETYPE BYNAME)
    (COND
      ((NULL (SETQ SORTATTR (MENU (FB.GET.SORT.MENU BROWSER))))
        (RETURN))
      ((LISTP SORTATTR)
        (SETQ REVERSED T)
        (SETQ SORTATTR (CAR SORTATTR)))
      (SETQ SORTFN (SELECTQ SORTATTR
        ((SIZE LENGTH BYTESIZE)
          (COND
            (REVERSED (FUNCTION FB.INCREASING.NUMERIC.ATTR))
            (T (FUNCTION FB.DECREASING.NUMERIC.ATTR))))
          ((CREATIONDATE WRITEDATE READDATE)
            (SETQ DATETYPE T)
            (COND
              (REVERSED (FUNCTION FB.INCREASING.NUMERIC.ATTR))
              (T (FUNCTION FB.DECREASING.NUMERIC.ATTR))))
          (NAME (SETQ BYNAME T)
            (COND
              (REVERSED (FUNCTION FB.NAMES.INCREASING.VERSION))
              (T (FUNCTION FB.NAMES.DECREASING.VERSION))))
          (FUNCTION FB.ALPHABETIC.ATTR)))
      (FB.PROMPTW.FORMAT BROWSER "Sorting by ~A..." SORTATTR)
      (SETQ ALLFILES (TB.COLLECT.ITEMS TBROWSER (FUNCTION FB.IS.NOT.SUBDIRECTORY.ITEM)))
      (COND
        ((NOT BYNAME)
          ; Need to compute the attribute on which we sort
          (SETQ SORT# (OR (CL:POSITION SORTATTR (|fetch| (FILEBROWSER INFODISPLAYED) |of| BROWSER)
            :KEY
            (FUNCTION CAR))
            (HELP "Couldn't find sort attribute" SORTATTR)))
          (|for| ITEM |in| ALLFILES |bind| (NAMESTART _ (AND (NOT HADNOSUBDIRS)
            (|fetch| (FILEBROWSER NAMESTART) |of| BROWSER)))
            DATA VALUE
            |do| (SETQ DATA (|fetch| TIDATA |of| ITEM))
              (SETQ VALUE (CL:NTH SORT# (|fetch| (FBFILEDATA FILEINFO) |of| DATA)))
              (COND
                ((AND VALUE DATETYPE)
                  (SETQ VALUE (IDATE VALUE))))
                (|replace| (FBFILEDATA SORTVALUE) |of| DATA |with| VALUE)
              (COND
                ((AND NAMESTART (|fetch| (FBFILEDATA HASDIRPREFIX) |of| DATA))
                  ; Need to go back to "full" names, since subdirectories are
                  ; senseless when not sorted by name
                  (|replace| (FBFILEDATA STARTOFFPNAME) |of| DATA |with| NAMESTART)
                  (FB.CHECK.NAME.LENGTH BROWSER DATA))))
                (HADNOSUBDIRS
                  ; We're sorting by name, so switch back to print names without
                  ; subdirs
                  (FB.SET.DEFAULT.NAME.WIDTH BROWSER)
                  (|for| DATA |in| ALLFILES |do| (COND
                    ((|fetch| (FBFILEDATA HASDIRPREFIX)
                      |of| (SETQ DATA (|fetch| TIDATA |of| DATA)))
                      (|replace| (FBFILEDATA STARTOFFPNAME) |of| DATA
                        |with| (|fetch| (FBFILEDATA STARTOFFPNAME) |of| DATA)))
                    (FB.CHECK.NAME.LENGTH BROWSER DATA))))
                  (SETQ ALLFILES (SORT ALLFILES SORTFN))
                  (COND
                    ((EQ BYNAME HADNOSUBDIRS)
                      ; Were wide names, now narrow, or vice versa
                      (FB.MAYBE.WIDEN.NAMES BROWSER)))
                    (BYNAME (FB.INSERT.SUBDIRECTORIES BROWSER ALLFILES)))
                  (FB.HEADINGW.DISPLAY BROWSER (|fetch| (FILEBROWSER HEADINGWINDOW) |of| BROWSER))

```



```
(TB.REPLACE.ITEMS TBROWSER ALLFILES)
(|replace| (FILEBROWSER NOSUBDIRECTORIES) |of| BROWSER |with| (NOT BYNAME))
(|replace| (FILEBROWSER SORTBY) |of| BROWSER |with| SORTFN)
(|replace| (FILEBROWSER SORTATTRIBUTE) |of| BROWSER |with| (AND (NOT BYNAME)
                                                                SORTATTR))
(|if| SORT#
 |then| (|replace| (FILEBROWSER SORTINDEX) |of| BROWSER |with| SORT#))
(|replace| (FILEBROWSER SORTBYDATE) |of| BROWSER |with| DATETYPE)
(FB.PROMPTWPRINT BROWSER "done"))
```

**(FB.INSERT.SUBDIRECTORIES**

```
(LAMBDA (BROWSER FILES) ; Edited 26-Jan-88 10:45 by bvm
(|for| TAIL |on| FILES |bind| (LASTDATA _ (|create| FBFILEDATA
                                         SUBDIREND _ 0))
 |when| (NOT (EQ.DIRECTORYP LASTDATA (SETQ LASTDATA (|fetch| TIDATA |of| (CAR TAIL))))))
 |do| ; This guy's directory differs from previous, so add subdirectory
      ; item
      (ATTACH (FB.MAKE.SUBDIRECTORY.ITEM BROWSER LASTDATA)
              TAIL)
      (SETQ TAIL (CDR TAIL))))
```

**(FB.GET.SORT.MENU**

```
(LAMBDA (BROWSER) ; Edited 26-Jan-88 12:38 by bvm
 (OR (|fetch| (FILEBROWSER SORTMENU) |of| BROWSER)
      (|replace| (FILEBROWSER SORTMENU) |of| BROWSER
 |with| (|create| MENU
          ITEMS
          (CONS ("Name" 'NAME "Sort files by name, decreasing version numbers"
                  (SUBITEMS ("Decreasing version" 'NAME "Sort files by name, decreasing
                              version numbers")
                              ("Increasing version" '(NAME T)
                              "Sort files by name, increasing version numbers")))
                  (|for| ATTR |in| (|fetch| (FILEBROWSER INFODISPLAYED) |of| BROWSER)
 |collect| ` (, (SETQ ATTR (CAR ATTR))
              ',ATTR "Sort by this attribute"
              , (SELECTQ ATTR
                  ((SIZE LENGTH BYTESIZE)
                   `(SUBITEMS ("Decreasing" ',ATTR "Sort files in order of
                               decreasing size")
                               ("Increasing" '(,ATTR T)
                               "Sort files in order of increasing size")))
                  ((CREATIONDATE WRITEDATE READDATE)
                   `(SUBITEMS ("Newer first" ',ATTR "Sort files with newer dates
                               appearing before older dates")
                               ("Older first" '(,ATTR T)
                               "Sort files with older dates appearing before
                               newer dates")))
                  NIL))))))))
```

(DEFINEQ

**(FB.EXPUNGECOMMAND**

```
(LAMBDA (FBROWSER KEY ITEM MENU CMD) ; Edited 22-Feb-2021 12:36 by rmk:
                                       ; Edited 9-Apr-93 22:07 by jds
 (PROG ((*UPPER-CASE-FILE-NAMES* NIL)
        (TBROWSER (|fetch| (FILEBROWSER TABLEBROWSER) |of| FBROWSER))
        (NDELETED 0)
        FILES FILENAME FAILED FILE)
 (COND
  ((SETQ FILES (TB.COLLECT.ITEMS TBROWSER 'DELETED))
   (FB.PROMPTWPRINT FBROWSER T "Expunging deleted files...")
   (FB.ALLOW.ABORT FBROWSER)
   (|for| ITEM |in| FILES |do| (COND
                                ((DELFILE (SETQ FILENAME (FB.FETCHFILENAME ITEM)))
                                 (|add| NDELETED 1)
                                 (FB.REMOVE.FILE TBROWSER FBROWSER ITEM)
                                 (FB.UPDATE.COUNTERS FBROWSER 'BOTH))
                                (T (FB.PROMPTWPRINT FBROWSER T "Couldn't expunge " FILENAME)
                                   (SETQ FAILED T))))
   ;; Let other things run (Like the mouse, so user can ABORT the expunge!)
   (BLOCK))
  (FB.PROMPTWPRINT FBROWSER (COND
                        ((EQ NDELETED 0)
                         "
                         No")
                        (T (CONCAT (COND
                                    (FAILED "
                                    Done, but only ")
                                    (T "done, ")
                                    NDELETED))))
   " files expunged.")
 (COND
```

```

(FAILED (COND
  (CMD (FB.PROMPTW.FORMAT FBROWSER " ~A aborted." CMD)))
  (RETURN NIL)))
(T (FB.PROMPTWPRINT FBROWSER T "No files were marked for deletion"))
(RETURN T)))

```

**(FB.NEWPATTERNCOMMAND**

; Edited 28-Jan-88 01:11 by bvm

```

(LAMBDA (BROWSER)
  (LET (PATTERN)
    (COND
      ((AND (FB.MAYBE.EXPUNGE BROWSER "New Pattern")
        (SETQ PATTERN (FB.GET.NEWPATTERN BROWSER)))
        (FB.SETNEWPATTERN BROWSER PATTERN)
        (FB.UPDATEBROWSERITEMS BROWSER))))))

```

**(FB.NEWINFOCOMMAND**

; Edited 22-Feb-2021 12:35 by rmk:  
; Edited 30-Aug-94 19:47 by jds

```

(LAMBDA (BROWSER)
  (LET ((WINDOW (|fetch| (FILEBROWSER BROWSERWINDOW) |of| BROWSER))
    (INFOMENUW (|fetch| (FILEBROWSER INFOMENUW) |of| BROWSER))
    REG)
    (COND
      ((NOT (OPENWP INFOMENUW))
        (SETQ INFOMENUW
          (MENUWINDOW (|create| MENU
            ITEMS _ FB.INFO.MENU.ITEMS
            MENUROWS _ 2
            TITLE _ "Info Options"
            CENTERFLG _ T
            MENUFONT _ FB.MENUFONT
            WHENSELECTEDFN _ (FUNCTION FB.INFO.MENU.WHENSELECTEDFN))))
        (ATTACHWINDOW INFOMENUW WINDOW 'BOTTOM 'JUSTIFY 'LOCALCLOSE)
        (COND
          ((LESSP (|fetch| (REGION BOTTOM) |of| (SETQ REG (WINDOWPROP INFOMENUW 'REGION)))
            0)
            ; Bump whole window up on screen so we can see it
            (MOVEW WINDOW (|create| POSITION
              XCOORD _ (|fetch| (REGION LEFT) |of| REG)
              YCOORD _ (|fetch| (REGION HEIGHT) |of| REG))))
          (FB.INFO.MENU.SHADEINITIALSELECTIONS INFOMENUW (|fetch| (FILEBROWSER INFOMENUCHOICES) |of| BROWSER))
          (|replace| (FILEBROWSER INFOMENUW) |of| BROWSER (|with| INFOMENUW)
            (WINDOWADDPROP INFOMENUW 'CLOSEFN (FUNCTION (LAMBDA (W)
              (AND (SETQ W (WINDOWPROP (MAINWINDOW W T)
                'FILEBROWSER))
                (|replace| (FILEBROWSER INFOMENUW) |of| W
                  (|with| NIL))))))
            T)))
        (FB.PROMPTWPRINT BROWSER 'CLEAR "Select from the lower menu which attributes are to be displayed,
          then click Recompute"))))

```

**(FB.DEPTHCOMMAND**

; Edited 1-Feb-88 13:54 by bvm:

```

(LAMBDA (FBROWSER)
  (LET ((OLDDEPTH (|fetch| (FILEBROWSER FBDEPTH) |of| FBROWSER))
    NEWDEPTH)
    (FB.PROMPTWPRINT FBROWSER "Current depth is " (SELECTQ OLDDEPTH
      (NIL "global default")
      (T "infinite")
      OLDDEPTH)
      T "Specify new depth")
    (|if| (EQ (SETQ NEWDEPTH (MENU (|create| MENU
      ITEMS _ FB.DEPTH.MENU.ITEMS
      CENTERFLG _ T)))
      :NUMBER)
      |then| (FB.ALLOW.ABORT FBROWSER)
      (SETQ NEWDEPTH (RNUMBER "Enumeration Depth" NIL NIL NIL T NIL T)))
    (|if| (NULL NEWDEPTH)
      |then| (FB.PROMPTWPRINT FBROWSER T "Depth unchanged")
      |else| (FB.PROMPTWPRINT FBROWSER T "Depth set to " (SELECTQ NEWDEPTH
        (:GLOBAL (SETQ NEWDEPTH NIL)
          "global default")
        (T "infinity")
        NEWDEPTH)
        " for future Recomputes")
        (|replace| (FILEBROWSER FBDEPTH) |of| FBROWSER (|with| NEWDEPTH))))))

```

**(FB.SHAPECOMMAND**

; Edited 2-Feb-88 12:02 by bvm:

```

(LAMBDA (BROWSER)
  ;; Widen or narrow the browser so that all information is visible
  (LET* ((WINDOW (|fetch| (FILEBROWSER BROWSERWINDOW) |of| BROWSER))
    (WREG (WINDOWREGION WINDOW))
    (WWIDTH (|fetch| (REGION WIDTH) |of| WREG))
    (EXTENT (WINDOWPROP WINDOW 'EXTENT))
    EXCESSHEIGHT MENUW)

```

```

;; Add enough to the whole region width to compensate for the excess of the extent over the actual width, but don't get wider than the
;; screen less a scroll bar. Using the EXTENT is not entirely correct--EXTENT's width reflects the widest line we have attempted to print,
;; not the widest line we MIGHT print if window were scrolled to other items.
(|replace| (REGION WIDTH) |of| WREG |with| (SETQ WWIDTH (MIN (+ WWIDTH (- (|fetch| (REGION WIDTH) |of| EXTENT)
(WINDOWPROP WINDOW 'WIDTH)))
(- SCREENWIDTH SCROLLBARWIDTH))))
(|if| (AND (> (SETQ EXCESSHEIGHT (- (WINDOWPROP WINDOW 'HEIGHT)
(|fetch| (REGION HEIGHT) |of| EXTENT)))
0)
(SETQ MENUW (CDR (|fetch| (FILEBROWSER ABORTWINDOW) |of| BROWSER))))
|then|
(|replace| (REGION HEIGHT) |of| WREG |with| (MAX (- (|fetch| (REGION HEIGHT) |of| WREG)
EXCESSHEIGHT)
(+ (|fetch| (REGION HEIGHT)
|of| (WINDOWPROP MENUW 'REGION))
(|fetch| (REGION HEIGHT)
|of| (WINDOWPROP (|fetch| (FILEBROWSER
PROMPTWINDOW)
|of| BROWSER)
'REGION))))))
|else| (SETQ EXCESSHEIGHT NIL))
(|if| (> (|fetch| (REGION PRIGHT) |of| WREG)
SCREENWIDTH)
|then|
(|replace| (REGION LEFT) |of| WREG |with| (- SCREENWIDTH WWIDTH))
(RESHAPEALLWINDOWS WINDOW WREG)
(|if| EXCESSHEIGHT
|then|
(SCROLLW WINDOW 0 (- EXCESSHEIGHT))))))
; Window is also taller than it needs to be--shrink it back, though
; not smaller than the minimum height
; If we're sticking over the edge on the right, move the region
; leftward.
; Silly reshaping routine tried to preserve the bottom, so scrolled
; the window up. Let's scroll it back down.

```

**(FB.REMOVE.FILE**

(LAMBDA (TBROWSER FBROWSER ITEM)

; Edited 25-Jan-88 17:24 by bvm

;;; Removes ITEM from browser display, counts its removal

```

(LET ((N (|fetch| TI# |of| ITEM))
PREVITEM NEXTITEM NEXTNEXTITEM)
(COND
((AND (NEQ N 1)
(|fetch| TIUNSELECTABLE |of| (SETQ PREVITEM (TB.NTH.ITEM TBROWSER (SUB1 N))))
(OR (NULL (SETQ NEXTITEM (TB.NTH.ITEM TBROWSER (ADD1 N))))
(|fetch| TIUNSELECTABLE |of| NEXTITEM)))
; ITEM is between two subdirectory lines, so remove at least the
; preceding line
(TB.REMOVE.ITEM TBROWSER PREVITEM)
(COND
((AND NEXTITEM (SETQ NEXTNEXTITEM (TB.NTH.ITEM TBROWSER (ADD1 N)))
(COND
(EQ (|add| N -1)
1)
; N decremented because of the remove above. Now removing first file, so see if next file has no subdir
(NULL.DIRECTORYP (|fetch| TIDATA |of| NEXTNEXTITEM))
(T (EQ.DIRECTORYP (|fetch| TIDATA |of| NEXTNEXTITEM)
(|fetch| TIDATA |of| (TB.NTH.ITEM TBROWSER (SUB1 N)))))))
; The next subdirectory line is superfluous, because the file after it and the file before us have the same subdirectory
(TB.REMOVE.ITEM TBROWSER NEXTITEM))))
(TB.REMOVE.ITEM TBROWSER ITEM)
(FB.COUNT.FILE.CHANGE FBROWSER ITEM 'REMOVE))))

```

**(FB.COUNT.FILE.CHANGE**

(LAMBDA (FBROWSER ITEM FLG)

(\* |bvm:| "13-Oct-85 17:47")

;;; Account for the addition or removal of ITEM from FBROWSER -- FLG is ADD or REMOVE

```

(LET ((SIGN (SELECTQ FLG
(ADD 1)
(REMOVE -1)
(SHOULDNT)))
(SIZE (|fetch| (FBFILEDATA SIZE) |of| (|fetch| TIDATA |of| ITEM)))
(DELETEDP (|fetch| TIDELETED |of| ITEM)))
(|replace| (FILEBROWSER TOTALFILES) |of| FBROWSER |with| (|add| (|fetch| (FILEBROWSER TOTALFILES)
|of| FBROWSER)
SIGN))
(COND
(DELETEDP (|replace| (FILEBROWSER DELETEDFILES) |of| FBROWSER |with| (|add| (|fetch| (FILEBROWSER
DELETEDFILES)
|of| FBROWSER)
SIGN))))
(COND
(SIZE (|add| (|fetch| (FILEBROWSER TOTALPAGES) |of| FBROWSER)
SIGN))))

```

```
(SETQ SIZE (ITIMES SIZE SIGN)))
(COND
  (DELETEDP (|add| (|fetch| (FILEBROWSER DELETEDPAGES) |of| FBROWSER)
    SIZE))))))
```

**(FB.SETNEWPATTERN**

(LAMBDA (FBROWSER PATTERN) ; Edited 1-Feb-88 15:46 by bvm:  
 ;; Called to install a new PATTERN in a filebrowser. PATTERN should already have been passed thru DIRECTORY.FILL.PATTERN.

```
(LET (ICON)
  (|replace| (FILEBROWSER PATTERN) |of| FBROWSER |with| PATTERN)
  (|replace| (FILEBROWSER PREPARED PATTERN) |of| FBROWSER |with| (DIRECTORY.MATCH.SETUP PATTERN))
  (|replace| (FILEBROWSER PATTERN PARSED?) |of| FBROWSER |with| NIL)
  (|replace| (FILEBROWSER NSPATTERN?) |of| FBROWSER |with| (STRPOS ":" (UNPACKFILENAME.STRING PATTERN
    'HOST))))
  (COND
    ((SETQ ICON (WINDOWPROP (|fetch| (FILEBROWSER BROWSERWINDOW) |of| FBROWSER)
      'ICONWINDOW)) ; Change the icon label
      (ICONW.TITLE ICON PATTERN)))
  PATTERN)))
```

**(FB.GET.NEWPATTERN**

(LAMBDA (BROWSER) ; Edited 30-Aug-94 19:47 by jds

```
(FB.ALLOW.ABORT BROWSER)
(LET* ((OLDPATTERN (|fetch| (FILEBROWSER PATTERN) |of| BROWSER))
  (PATTERN (FB.PROMPTFORINPUT (COND
    (OLDPATTERN "New file group description: ")
    (T "File group description: ")
    OLDPATTERN BROWSER T)))
  (COND
    (PATTERN (DIRECTORY.FILL.PATTERN PATTERN))))))
```

**(FB.OPTIONSCOMMAND**

(LAMBDA (BROWSER) (\* |bvm:| "13-Sep-85 16:13")  
 (FB.PROMPTWPRINT BROWSER "Please use the Options roll-out submenu to select the option you desire."))

)

;; window functions

(DEFINEQ

**(FB.GETWINDOW**

(LAMBDA (WINDOW WHICH) ; Edited 16-Oct-2021 15:02 by rmk:

;; Closed function to get at filebrowser attached windows by type, without need record declarations at runtime. Helps MODERNIZE get the right  
 ;; regions.

```
(LET* ((FBWINDOW (CENTRALWINDOW WINDOW))
  (FILEBROWSER (WINDOWPROP FBWINDOW 'FILEBROWSER)))
  (CL:WHEN FILEBROWSER
    (SELECTQ WHICH
      (HEADING (FETCH (FILEBROWSER HEADINGWINDOW) OF FILEBROWSER))
      (COUNTER (FETCH (FILEBROWSER COUNTERWINDOW) OF FILEBROWSER))
      (BROWSER FBWINDOW)
      (PROMPT (FETCH (FILEBROWSER PROMPTWINDOW) OF FILEBROWSER))
      (COMMAND (FIND W IN (WINDOWPROP FBWINDOW 'ATTACHEDWINDOWS)
        SUCHTHAT (EQ 'MENUBUTTONFN (WINDOWPROP W 'BUTTONEVENTFN))))
      NIL))))))
```

)

(DEFINEQ

**(FB.INFO.MENU.SHADEINITIALSELECTIONS**

(LAMBDA (MENUWINDOW INITIALSELECTIONS) ; Edited 21-Jan-88 18:36 by bvm

```
(LET* ((MENU (CAR (WINDOWPROP MENUWINDOW 'MENU)))
  (MENUITEMS (|fetch| (MENU ITEMS) |of| MENU)))
  (|for| SELECTION |in| INITIALSELECTIONS |do| (SHADEITEM (FB.INFO.ITEM.NAMED SELECTION MENUITEMS)
    MENU FB.INFO.SHADE MENUWINDOW))))))
```

**(FB.INFO.ITEM.NAMED**

(LAMBDA (TAG ITEMS) ; Edited 21-Jan-88 17:38 by bvm

;;; search list items for one with second element TAG

```
(|for| ITEM |in| ITEMS |when| (STRING-EQUAL (CADR ITEM)
  TAG)
  |do| (RETURN ITEM)))
```

)

(DEFINEQ

**(FB.MAKECOUNTERWINDOW**

(LAMBDA (BROWSERWINDOW FONT WIDTH HEIGHT TITLE)

; Edited 22-Feb-2021 12:41 by rmk;  
; Edited 30-Aug-94 19:47 by jds

(LET ((COUNTERW (CREATEW (**|create|** REGION  
LEFT \_ 0  
BOTTOM \_ 0  
HEIGHT \_ HEIGHT  
WIDTH \_ WIDTH)  
(OR TITLE "File Browser Window")  
NIL T)))

**(FB.MAKERIGIDWINDOW** COUNTERW)

(DSPFONT FONT COUNTERW)

(ATTACHWINDOW COUNTERW BROWSERWINDOW 'TOP)

(**|replace|** (**FILEBROWSER** COUNTERWINDOW) **|of|** (WINDOWPROP BROWSERWINDOW 'FILEBROWSER) **|with|** COUNTERW)

(WINDOWPROP COUNTERW 'REPAINTFN (FUNCTION FB.COUNTERW.REDISPLAYFN))

(WINDOWPROP COUNTERW 'RESHAPEFN (FUNCTION FB.COUNTERW.REDISPLAYFN))

(WINDOWPROP COUNTERW 'PAGEFULLFN (FUNCTION NIL)) ; Set up for modernized window moving/shaping

(WINDOWPROP COUNTERW 'BUTTONEVENTFN (FUNCTION TOTOPW.MODERNIZE))

(WINDOWPROP BROWSERWINDOW 'TOPMARGIN 0)

COUNTERW))

**(FB.COUNTERW.REDISPLAYFN**

(LAMBDA (COUNTERWINDOW)

; Edited 4-Feb-88 15:11 by bvm:

(LET ((BROWSER (WINDOWPROP (MAINWINDOW COUNTERWINDOW T)  
'FILEBROWSER)))

(**|if|** (**|fetch|** (**FILEBROWSER** FBREADY) **|of|** BROWSER)  
**|then|**

; Don't do this if user reshapes while we're still enumerating.

(CLEARW COUNTERWINDOW)  
(**FB.DISPLAY.COUNTERS** BROWSER))))

**(FB.UPDATE.COUNTERS**

(LAMBDA (FBROWSER TYPE)

; Edited 30-Aug-94 19:48 by jds

(LET\* ((COUNTERW (**|fetch|** (**FILEBROWSER** COUNTERWINDOW) **|of|** FBROWSER))  
(XPOSPAIRS (**|fetch|** (**FILEBROWSER** COUNTERPOSITIONS) **|of|** FBROWSER))  
(TOTAL (**|fetch|** (**FILEBROWSER** TOTALFILES) **|of|** FBROWSER))  
(TOTALPAGES (**|fetch|** (**FILEBROWSER** TOTALPAGES) **|of|** FBROWSER))  
(DEL (**|fetch|** (**FILEBROWSER** DELETEDFILES) **|of|** FBROWSER))  
(DELPAGES (**|fetch|** (**FILEBROWSER** DELETEDPAGES) **|of|** FBROWSER))  
(PAGESTRING (**|fetch|** (**FILEBROWSER** COUNTERPAGESTRING) **|of|** FBROWSER))  
(HEIGHT (WINDOWPROP COUNTERW 'HEIGHT))  
HERE LABELS)

(SETQ LABELS (LIST (COND

((**|fetch|** (**FILEBROWSER** SHOWUNDELETED?) **|of|** FBROWSER)  
(**FB.COUNTER.STRING** FBROWSER (IDIFFERENCE TOTAL DEL  
(IDIFFERENCE TOTALPAGES DELPAGES))))

((NEQ TYPE 'DELETED) ; Don't need to update total if only deleted count changed

(**FB.COUNTER.STRING** FBROWSER TOTAL TOTALPAGES))))

(AND (NEQ TYPE 'TOTAL)  
(**FB.COUNTER.STRING** FBROWSER DEL DELPAGES))))

(DSPXPOSITION 0 COUNTERW)

(**|for|** LAB **|in|** LABELS **|as|** PAIR **|in|** XPOSPAIRS **|when|** LAB **|do|** (DSPXPOSITION (CAR PAIR)

COUNTERW)

(PRIN3 LAB COUNTERW)

(PRIN3 PAGESTRING COUNTERW)

(BLTSHADE WHITESHAE COUNTERW

(SETQ HERE (DSPXPOSITION NIL COUNTERW))

0

(IDIFFERENCE (CADR PAIR)

HERE)

HEIGHT

'REPLACE))))))

**(FB.DISPLAY.COUNTERS**

(LAMBDA (FBROWSER)

; Edited 30-Aug-94 19:48 by jds

(LET\* ((COUNTERW (**|fetch|** (**FILEBROWSER** COUNTERWINDOW) **|of|** FBROWSER))

(TOTAL (**|fetch|** (**FILEBROWSER** TOTALFILES) **|of|** FBROWSER))

(TOTALPAGES (**|fetch|** (**FILEBROWSER** TOTALPAGES) **|of|** FBROWSER))

(DEL (**|fetch|** (**FILEBROWSER** DELETEDFILES) **|of|** FBROWSER))

(DELPAGES (**|fetch|** (**FILEBROWSER** DELETEDPAGES) **|of|** FBROWSER))

(COUNTERWIDTH (WINDOWPROP COUNTERW 'WIDTH))

(COUNTERFONT (DSPFONT NIL COUNTERW))

(SECTIONWIDTH (IQUOTIENT COUNTERWIDTH 2))

(THRESHOLDWIDTH (IDIFFERENCE SECTIONWIDTH (ITIMES 2 (CHARWIDTH (CHARCODE \a)  
COUNTERFONT))))

(HEIGHT (WINDOWPROP COUNTERW 'HEIGHT))

PAGESTRING MAXWIDTH HERE LABELS)

(SETQ LABELS (LIST (COND

((**|fetch|** (**FILEBROWSER** SHOWUNDELETED?) **|of|** FBROWSER)

(LIST "Undeleted: " (**FB.COUNTER.STRING** FBROWSER (IDIFFERENCE TOTAL DEL  
(IDIFFERENCE TOTALPAGES DELPAGES))))

(T (LIST "Total: " (**FB.COUNTER.STRING** FBROWSER TOTAL TOTALPAGES))))

(LIST "Deleted: " (**FB.COUNTER.STRING** FBROWSER DEL DELPAGES))))

(DSPXPOSITION 0 COUNTERW)

(DSPRIGHTMARGIN MAX.SMALLP COUNTERW)

```
(LINELENGTH MAX.SMALLP COUNTERW)
(SETQ MAXWIDTH 0)
(|for| LAB |in| LABELS |do| (SETQ MAXWIDTH (IMAX MAXWIDTH (IPLUS (STRINGWIDTH (CAR LAB)
                                                                    COUNTERFONT)
                                                                    (STRINGWIDTH (CADR LAB)
                                                                    COUNTERFONT))))))

(COND
  ((NOT (|fetch| (FILEBROWSER PAGECOUNT?) |of| FBROWSER))
   (SETQ PAGESSTRING ""))
  ((IGREATERP (PLUS MAXWIDTH (STRINGWIDTH (SETQ PAGESSTRING " pages")
                                             COUNTERFONT))
              THRESHOLDWIDTH)
   ; Try a shorter word
   (SETQ PAGESSTRING " pgs")))

(COND
  ((IGREATERP (PLUS MAXWIDTH (STRINGWIDTH PAGESSTRING COUNTERFONT))
              THRESHOLDWIDTH)
   ; The long labels are too long, so abbreviate them. Only have to
   ; do this for very narrow windows
   (|for| LAB |in| LABELS |do| (RPLACA LAB (CONCAT (SUBSTRING (CAR LAB)
                                                            1 3)
                                                    ": "))))))

(|replace| (FILEBROWSER COUNTERPOSITIONS) |of| FBROWSER
 |with| (|for| LAB |in| LABELS |as| NEXTPOS |from| SECTIONWIDTH |by| SECTIONWIDTH
 |collect| (PRIN3 (CAR LAB)
                  COUNTERW)
           (LIST (DSPXPOSITION NIL COUNTERW)
                 (PROGN (PRIN3 (CADR LAB)
                               COUNTERW)
                        (PRIN3 PAGESSTRING COUNTERW)
                        (BLTSHADE WHITESHADE COUNTERW (SETQ HERE (DSPXPOSITION NIL COUNTERW))
                                0
                                (IDIFFERENCE NEXTPOS HERE)
                                HEIGHT
                                'REPLACE)
                        (DSPXPOSITION NEXTPOS COUNTERW)
                        NEXTPOS))))))
(|replace| (FILEBROWSER COUNTERPAGESTRING) |of| FBROWSER |with| PAGESSTRING)))
```

**(FB.COUNTER.STRING**

```
(LAMBDA (FBROWSER NFILES NPAGES) ; (* |bvm:| "11-Sep-85 11:44")
  (COND
    ((|fetch| (FILEBROWSER PAGECOUNT?) |of| FBROWSER)
     (CONCAT NFILES " / " NPAGES))
    (T (MKSTRING NFILES))))
)
```

(DEFINEQ

**(FB.MAKEHEADINGWINDOW**

```
(LAMBDA (BROWSERWINDOW WIDTH HEIGHT FONT) ; Edited 22-Feb-2021 12:29 by rmk:
; Edited 22-Jan-88 17:45 by bvm

  (LET ((HEADINGW (CREATEW (|create| REGION
                             LEFT _ 0
                             BOTTOM _ 0
                             WIDTH _ WIDTH
                             HEIGHT _ HEIGHT)
                           NIL 0 T)))
    (DSPFONT FONT HEADINGW)
    (FB.MAKERIGIDWINDOW HEADINGW)
    (ATTACHWINDOW HEADINGW BROWSERWINDOW 'TOP)
    (WINDOWPROP HEADINGW 'PASSTOMAINCOMS T) ; Pass ALL window ops to main window, since we look sort of
; like a title bar

    (DSPTEXTURE BLACKSHADE HEADINGW)
    (WINDOWPROP HEADINGW 'REPAINTFN (FUNCTION FB.HEADINGW.REDISPLAYFN))
    (WINDOWPROP HEADINGW 'RESHAPEFN (FUNCTION FB.HEADINGW.RESHAPEFN)) ; This is a white on black window

    (DSPPERATION 'INVERT HEADINGW)
    (DSPFILL NIL BLACKSHADE 'REPLACE HEADINGW) ; Set up for modernized window moving/shaping
    (WINDOWPROP HEADINGW 'BUTTONEVENTFN (FUNCTION TOTOPW.MODERNIZE))
    (WINDOWPROP BROWSERWINDOW 'TOPMARGIN 0)
    HEADINGW)))
```

**(FB.HEADINGW.REDISPLAYFN**

```
(LAMBDA (WINDOW) ; (* |bvm:| "19-Sep-85 14:39")
  (FB.HEADINGW.DISPLAY (WINDOWPROP (WINDOWPROP WINDOW 'MAINWINDOW)
                                    'FILEBROWSER)
                       WINDOW)))
```

**(FB.HEADINGW.RESHAPEFN**

```
(LAMBDA (WINDOW) ; Edited 22-Jan-88 17:51 by bvm
```

;;; Redraw the heading window after a reshape

```
(LET ((FBROWSER (WINDOWPROP (WINDOWPROP WINDOW 'MAINWINDOW)
```

```

      ' FILEBROWSER)))
(CLEARW WINDOW)
(FB.HEADINGW.DISPLAY FBROWSER WINDOW)))

```

**(FB.HEADINGW.DISPLAY**

; Edited 30-Aug-94 19:42 by jds

```

(LAMBDA (FBROWSER WINDOW)
  (LET* ((STREAM (WINDOWPROP WINDOW 'DSP))
         (CLIP (DSPCLIPPINGREGION NIL WINDOW))
         (RMARG (|fetch| (REGION RIGHT) |of| CLIP))
         (BORDER (WINDOWPROP (MAINWINDOW WINDOW)
                              'BORDER))
         (NEXTPOS (+ BORDER (|fetch| (FILEBROWSER INFOSTART) |of| FBROWSER)))
         (DEPTH (|fetch| (FILEBROWSER FBDISPLAYEDDEPTH) |of| FBROWSER))
         (FORMAT)
         (DSPFILL CLIP BLACKSHADE 'REPLACE STREAM)
         (DSPRIGHTMARGIN 32000 STREAM)
         (|if| (< (|fetch| (REGION LEFT) |of| CLIP)
              NEXTPOS)
              |then|
              (DSPXPOSITION (+ TB.LEFT.MARGIN BORDER)
                           STREAM)
              (PRIN3 "Name" STREAM)
              (|if| (NEQ DEPTH 0)
                   |then| (CL:FORMAT STREAM " (depth ~D)" DEPTH)))
         (|for| SPEC |in| (|fetch| (FILEBROWSER INFODISPLAYED) |of| FBROWSER) |until| (> NEXTPOS RMARG)
         |do| (DSPXPOSITION (|if| (LISTP (SETQ FORMAT (|fetch| (INFOFIELD INFOFORMAT) |of| SPEC)))
                               |then|
                               (- (+ NEXTPOS (CADR FORMAT)
                                   (STRINGWIDTH (|fetch| (INFOFIELD INFOFIELD) |of| SPEC)
                                   STREAM))
                               |else| NEXTPOS)
                               STREAM)
              (PRIN3 (|fetch| (INFOFIELD INFOFIELD) |of| SPEC)
                    STREAM)
              (|add| NEXTPOS (|fetch| (INFOFIELD INFOWIDTH) |of| SPEC))))))
)

```

; Note: title window has no border, so add the main window's border width to all x computations here.

; Some of "Name (depth n)" field may be visible.

; Right-justified integer field, so right-justify title

(DEFINEQ

**(FB.ICONFN**

; Edited 30-Aug-94 19:48 by jds

```

(LAMBDA (WINDOW OLDICON POSITION)
  (OR OLDICON (TITLEDICONW FB.ICONSPEC (|fetch| (FILEBROWSER PATTERN) |of| (WINDOWPROP WINDOW 'FILEBROWSER))
          FB.ICONFONT POSITION NIL NIL 'FILE)))

```

**(FB.INFOMENU.WHENSELECTEDFN**

(\* |bvm:| "18-Sep-85 11:51")

```

(LAMBDA (ITEM MENU KEY)
  (LET* ((INFO (CADR ITEM))
         (WINDOW (WINDOWPROP (WFROMMENU MENU)
                              'MAINWINDOW))
         (BROWSER (WINDOWPROP WINDOW 'FILEBROWSER))
         (CHOSEN (|fetch| (FILEBROWSER INFOMENUCHOICES) |of| BROWSER)))
    (COND
      ((FMEMB INFO CHOSEN)
       (SHADEITEM ITEM MENU WHITESHADE)
       (SETQ CHOSEN (REMOVE INFO CHOSEN)))
      (T (SHADEITEM ITEM MENU FB.INFOSHADE)
         (SETQ CHOSEN (CONS INFO CHOSEN))))
    (|replace| (FILEBROWSER INFOMENUCHOICES) |of| BROWSER |with| CHOSEN)))

```

**(FB.CLOSEFN**

; Edited 27-Jan-88 23:52 by bvm

```

(LAMBDA (TBROWSER WINDOW FLG)
  ;; did you really want to close up shop?
  (RESETLST
   (COND
     ((NOT (OBTAIN.MONITORLOCK (|fetch| (FILEBROWSER FBLOCK) |of| (TB.USERDATA TBROWSER))
                               T T))
      (PROMPTPRINT (CONCAT "Can't " (L-CASE FLG)
                          " window while browser is busy"))
      'DON'T)
     ((NEQ (TB.NUMBER.OF.ITEMS TBROWSER 'DELETED)
          0)
      (SELECTQ (MENU (FB.EXPUNGE?.MENU))
               (EXPUNGE
                (FUNCTION FB.CLOSE&EXPUNGE))
               (NOEXPUNGE NIL)
               'DON'T))))))

```

; There are deleted items. Shall we expunge?

; Do expunge in another process, not here in mouse

**(FB.EXPUNGE?.MENU**

; Edited 1-Feb-88 15:25 by bvm:

```

(LAMBDA NIL
  (OR FB.EXPUNGE?MENU (SETQ FB.EXPUNGE?MENU

```

```
(|create| MENU
  ITEMS _ FB.CLOSE.MENU.ITEMS
  MENUROWS _ 2
  CENTERFLG _ T
  TITLE _ "Do what with deleted files?"
  MENUFONT _ FB.BROWSERFONT))
```

**(FB.AFTERCLOSEFN**

```
(LAMBDA (TBROWSER WINDOW) ; Edited 12-Sep-85 15:12 by bvm:
```

;; Snap circularities before window vanishes

```
(LET ((FBROWSER (WINDOWPROP WINDOW 'FILEBROWSER NIL))
      (|replace| (FILEBROWSER TABLEBROWSER) |of| FBROWSER |with| NIL)
      (TB.USERDATA TBROWSER NIL)))
```

**(FB.CLOSE&EXPUNGE**

```
(LAMBDA (TBROWSER WINDOW FLG) ; Edited 1-Feb-88 16:37 by bvm:
```

```
(LET ((BROWSER (TB.USERDATA TBROWSER))
      MENU ITEM)
  (|find| w |in| (ATTACHEDWINDOWS WINDOW) |suchthat| (AND (SETQ MENU (CAR (WINDOWPROP W 'MENU)))
                                                           (EQ 1 (|fetch| (MENU MENU COLUMNS) |of| MENU))))
  (SETQ ITEM (ASSOC ' |Expunge| (|fetch| (MENU ITEMS) |of| MENU)))
  (RESETLST
```

```
(FB.MAKE.BROWSER.BUSY BROWSER ITEM MENU)
```

```
(COND ((FB.EXPUNGECOMMAND BROWSER NIL NIL NIL FLG)
```

;; Expunge succeeded. Unshade the Expunge item and get rid of Abort before we shrink, or else they will still be shaded/Open  
;; when we expand

```
(FB.FINISH.COMMAND BROWSER ITEM MENU)
(TB.FINISH.CLOSE TBROWSER (|fetch| (FILEBROWSER BROWSERWINDOW) |of| BROWSER)
 FLG))))))
```

)

(DEFINEQ

**(FB.HARDCOPY.DIRECTORY**

```
(LAMBDA (WINDOW IMAGESTREAM) ; Edited 30-Aug-94 19:42 by jds
```

```
(RESETLST
  (LET ((FBROWSER (WINDOWPROP WINDOW 'FILEBROWSER))
        (TBROWSER (WINDOWPROP WINDOW 'TABLEBROWSER))
        (SCALE (DSPSCALE NIL IMAGESTREAM))
        (RMARG (DSPRIGHTMARGIN MAX.SMALLP IMAGESTREAM))
        (LMARG (DSPLEFTMARGIN NIL IMAGESTREAM))
        (MAXNAMEWIDTH 0)
        (MAINFONT FB.HARDCOPY.FONT)
        (DIRFONT (OR FB.HARDCOPY.DIRECTORY.FONT ITALICFONT))
        FDATA INFO W LABEL COLUMNSPECS INFOLMARG PROPS FILES TITLE PAD DATEWIDTH)
        (ALLOW.BUTTON.EVENTS) ; Ensure that we are no longer the mouse process (should be
                               ; redundant)
        (FB.MAKE.BROWSER.BUSY FBROWSER) ; Grab the browser, so it doesn't change out from under us
        (FB.ALLOW.ABORT FBROWSER) ; Enable abort button
        (FB.PROMPTWPRINT FBROWSER T "Producing hardcopy listing of directory...")
        (|if| MAINFONT ; User-settable font for listing to appear in
          |then| (DSPFONT MAINFONT IMAGESTREAM)
                ; Get coerced font, or default
                (SETQ MAINFONT (DSPFONT NIL IMAGESTREAM))
                (SETQ TITLE (CONCAT "Directory of " (|fetch| (FILEBROWSER PATTERN) |of| FBROWSER)))
                (STREAMPROP IMAGESTREAM 'PRINTOPTIONS (LIST* 'DOCUMENT.NAME TITLE (STREAMPROP IMAGESTREAM
                'PRINTOPTIONS))))
                ; Give the document a nice name
                (FB.HARDCOPY.PRINT.TITLE (CONCAT "Directory of " (WINDOWPROP (|fetch| (FILEBROWSER COUNTERWINDOW)
                |of| FBROWSER)
                'TITLE))
                IMAGESTREAM LMARG RMARG)
                (|if| (|fetch| (FILEBROWSER PAGECOUNT?) |of| FBROWSER)
                  |then| (FB.HARDCOPY.PRINT.TITLE (CONCAT (|fetch| (FILEBROWSER TOTALFILES) |of| FBROWSER)
                " files in "
                (|fetch| (FILEBROWSER TOTALPAGES) |of| FBROWSER)
                " pages")
                IMAGESTREAM LMARG RMARG))
                ; Space between columns
                (SETQ PAD (TIMES SCALE 12))
                (|for| ITEM |in| (SETQ FILES (TB.COLLECT.ITEMS TBROWSER)) |unless| (|fetch| (FBFILEDATA DIRECTORYP)
                |of| (SETQ FDATA
                (|fetch| TIDATA |of| ITEM))))
                |do| (SETQ MAXNAMEWIDTH (IMAX (STRINGWIDTH (|fetch| (FBFILEDATA PRINTNAME) |of| FDATA)
                MAINFONT)
                MAXNAMEWIDTH)))
                (SETQ COLUMNSPECS (|for| SPEC |in| (|fetch| (FILEBROWSER INFODISPLAYED) |of| FBROWSER) |as| INDEX
                |from| 0 |bind| PROTO
                |collect| ; For each bit of info to print, compute how much space we
                ; expect it to need. Second slot filled in below
                (LIST* (+ PAD (|if| (SETQ PROTO (|fetch| (INFOFIELD INFOFROTOTYPE)
```



```

                                |of| SPEC))
|then| (STRINGWIDTH PROTO IMAGESTREAM)
|elseif| (EQ (|fetch| (INFOFIELD INFOFORMAT) |of| SPEC
                'DATE)
|then| (OR DATEWIDTH (SETQ DATEWIDTH
                    (FB.HARDCOPY.MAXWIDTH FILES
                      INDEX MAINFONT T)))
|else| (FB.HARDCOPY.MAXWIDTH FILES INDEX MAINFONT)))
                                NIL SPEC)))
(SETQ INFOLMARG (- RMARG (|for| PAIR |in| COLUMNSPECS |sum| (CAR PAIR))))
(LET ((NAMERIGHTMARG (+ LMARG MAXNAMEWIDTH PAD)))
  (|if| (< NAMERIGHTMARG INFOLMARG)
    |then|
      (SETQ INFOLMARG NAMERIGHTMARG)
      ; Enough space for name plus all info with room left over
    |elseif| (> INFOLMARG LMARG)
    |then|
      ; Ok, there's enough space for info, though it might end up on a
      ; separate line from file name
      ; Ugh, want to print more info than fits on a line. Punt
    |else|
      (SETQ INFOLMARG NAMERIGHTMARG)
      (DSPRIGHTMARGIN RMARG IMAGESTREAM)
      ; make it wrap after all
  ))
(LET ((FIRSTINFOCOLUMN INFOLMARG))
  (|for| PAIR |in| COLUMNSPECS |do|
    ; Print headers
    (SETQ LABEL (|fetch| (INFOFIELD INFOLABEL) |of| (CDDR PAIR)))
    (SETQ W (FIXR (CAR PAIR)))
    (DSPXPOSITION (+ FIRSTINFOCOLUMN (IQUOTIENT (- (- W PAD)
                                                    (STRINGWIDTH LABEL
                                                                IMAGESTREAM))
                                                    2))
      IMAGESTREAM)
      ; Center the label
      (PRIN3 LABEL IMAGESTREAM)
      (RPLACA PAIR (PROG1 FIRSTINFOCOLUMN (|add| FIRSTINFOCOLUMN W)))
      ; First element is left position of the entry
      (|if| (|fetch| (INFOFIELD INFOFORMAT) |of| (CDDR PAIR))
        |then|
          ; Second element is right margin (for right-justified items)
          (RPLACA (CDDR PAIR)
            (- FIRSTINFOCOLUMN PAD))))
    (TERPRI IMAGESTREAM)
    (TERPRI IMAGESTREAM))
  (|for| ITEM |in| FILES |bind| FILEINFO INFO FORMAT HERE NEXT
  |do| (SETQ FDATA (|fetch| TIDATA |of| ITEM))
    (|if| (|fetch| (FBFILEDATA DIRECTORYP) |of| FDATA)
      |then|
        (DSPFONT DIRFONT IMAGESTREAM)
        (DSPXPOSITION (+ LMARG (TIMES SCALE 16))
          IMAGESTREAM)
        (PRIN3 (|fetch| (FBFILEDATA PRINTNAME) |of| FDATA)
          IMAGESTREAM)
        (DSPFONT MAINFONT IMAGESTREAM)
      |else| (PRIN3 (|fetch| (FBFILEDATA PRINTNAME) |of| FDATA)
        IMAGESTREAM)
      (|if| COLUMNSPECS
        |then| (SETQ FILEINFO (|fetch| (FBFILEDATA FILEINFO) |of| FDATA))
          (|if| (AND (> (SETQ HERE (DSPXPOSITION NIL IMAGESTREAM))
                    INFOFMARG)
                (OR (NULL (SETQ NEXT (CADR (CAR COLUMNSPECS))))
                    (> HERE NEXT)
                    (AND (SETQ INFO (CAR FILEINFO))
                        (> (+ HERE (TIMES SCALE 6))
                            (- NEXT (STRINGWIDTH INFO MAINFONT))))))
            |then|
              ; name overran start of info--go to next line. The complex
              ; second clause lets us cheat in the case where the first info
              ; column is right-justified and will turn out to be short enough to
              ; leave space
              (TERPRI IMAGESTREAM)
              (|for| PAIR |in| COLUMNSPECS |as| INFO |in| FILEINFO
              |do| (DSPXPOSITION (COND
                ((SETQ NEXT (CADR PAIR))
                  ; Get numbers to line up right justified
                  (- NEXT (STRINGWIDTH INFO MAINFONT)))
                (T (CAR PAIR)))
                IMAGESTREAM)
              (|if| INFO
                |then| (PRIN3 INFO IMAGESTREAM))))
              (TERPRI IMAGESTREAM)
              (BLOCK))
      (FB.PROMPTWPRINT FBROWSER "done")
      (DSPRIGHTMARGIN RMARG IMAGESTREAM))))))

```

**(FB.HARDCOPY.PRINT.TITLE**

```

(LAMBDA (TITLE IMAGESTREAM LMARG RMARG)
  (DSPXPOSITION (+ LMARG (IQUOTIENT (- RMARG (+ LMARG (STRINGWIDTH TITLE IMAGESTREAM))
                                        2))
    IMAGESTREAM)
  (|printout| IMAGESTREAM TITLE T T)))
; Edited 5-Mar-87 17:59 by bvm:

```

**(FB.HARDCOPY.MAXWIDTH**

```

(LAMBDA (FILES ATTRINDEX FONT DATEP) ; Edited 27-Jan-88 13:10 by bvm
  ;; Compute maximum width of values of the ATTRIBUTE prop of each of the items in FILES.
  ;; If DATEP is true, we assume all dates are created equal, and just return the first one
  (|if| (AND DATEP (NEQ (CHARWIDTH (CHARCODE W)
                                FONT)
                        (CHARWIDTH (CHARCODE \i)
                                FONT))))
    |then| ; Variable-width font, let's compute it for real
      (SETQ DATEP NIL)
  (|for| ITEM |in| FILES |bind| (MAXWIDTH _ 0)
    |when| (AND (SETQ INFO (CL:NTH ATTRINDEX (|fetch| (FBFILEDATA FILEINFO) |of| (|fetch| TIDATA |of| ITEM))))
              (> (SETQ WIDTH (STRINGWIDTH INFO FONT)
                  MAXWIDTH))
    |do| (|if| DATEP
          |then| (RETURN WIDTH))
        (SETQ MAXWIDTH WIDTH)
    |finally| (RETURN MAXWIDTH)))
)

(DECLARE\ : EVAL@COMPILE DONTCOPY

(FILESLoad (LOADCOMP)
  TABLEBROWSER)

(DECLARE\ : EVAL@COMPILE

(RECORD INFOFIELD (INFONAME INFOLABEL INFOWIDTH INFOFORMAT INFOPROTOTYPE))

(DATATYPE FBFILEDATA ((FILENAME POINTER) ; Full name of this file
                      (FILEINFO POINTER) ; Plist of attributes
                      (VERSIONLESSNAME POINTER) ; FILENAME sans version
                      (DIRECTORYP FLAG) ; True if it's a directory line
                      (HASDIRPREFIX FLAG) ; True if it has a directory prefix beyond that in common to all the
                      ; files
                      (DIRECTORYFILEP FLAG) ; True if the "file" in this item is actually a subdirectory
                      (SIZE POINTER) ; Size of file, for stats
                      (FILEDEPTH BYTE) ; Number of levels of subdirectory beneath the main
                      ; pattern--zero for files at that level
                      (SORTVALUE POINTER) ; Cached value by which we are sorting the dir.
                      (SUBDIREND WORD) ; Index of last char in subdirectory, or zero if HASDIRPREFIX is
                      ; false
                      (STARTOFFPNAME WORD) ; Start of name for printing purposes. Same as STARTOFFPNAME
                      ; when browser sorted by name
                      (VERSION WORD) ; Version, or zero if none
                      (STARTOFFNAME WORD) ; Index beyond all directory fields
                      DUMMY)
  (ACCESSFNS FBFILEDATA ((PRINTNAME (SUBSTRING (FETCH (FBFILEDATA FILENAME) OF DATUM)
                                                (FETCH (FBFILEDATA STARTOFFPNAME) OF DATUM)))
                        (SUBDIRECTORY (SUBSTRING (FETCH (FBFILEDATA FILENAME) OF DATUM)
                                                1
                                                (FETCH (FBFILEDATA SUBDIREND) OF DATUM))))))

(DATATYPE FILEBROWSER ((NOSUBDIRECTORIES FLAG) ; True if we don't want separate subdirectory lines -- subdirs then
                      (NSPATTERN? FLAG) ; included in name
                      (SHOWUNDELETED? FLAG) ; True if host is an ns host
                      (PATTERNPARSED? FLAG) ; True if counter window should show 'Undeleted' rather than
                      ; 'Total' counts
                      (SORTBYDATE FLAG) ; True if PREPARED PATTERN, NAMESTART,
                      (FBREADY FLAG) ; DIRECTORYSTART are valid
                      (ABORTING FLAG) ; True if SORTATTRIBUTE is one of the date attributes
                      (FIXEDTITLE FLAG) ; False while FB is enumerating.
                      (FBCOMPUTEDDEPTH BYTE) ; True if enumeration is being aborted
                      (FBDISPLAYEDDEPTH BYTE) ; True if caller supplied title
                      (TABLEBROWSER POINTER) ; Depth at the time we enumerated directory (zero for infinite)
                      (BROWSERWINDOW POINTER) ; Depth we are currently displaying (zero for infinite)
                      (COUNTERWINDOW POINTER) ; Pointer to TABLEBROWSER object controlling the browser
                      (HEADINGWINDOW POINTER) ; Main window
                      (INFOMENUW POINTER) ; Window that counts files, pages, deletions
                      ; Window with headings for browser columns
                      ; Window containing choices for info to be displayed, or NIL if
                      ; none yet
                      (PROMPTWINDOW POINTER) ; GETPROMPTWINDOW BROWSERWINDOW
                      (INFODISPLAYED POINTER) ; List of attribute specs to be displayed
                      (PATTERN POINTER) ; Directory pattern being enumerated
                      (PREPAREDPATTERN POINTER) ; DIRECTORY.MATCH.SETUP of same
                      (SEEWINDOW POINTER) ; Primary window used by FAST SEE command
                      (BROWSERFONT POINTER) ; Font of BROWSERWINDOW
                      (SORTBY POINTER) ; Sorting function or NIL for default sort
                      (NAMESTART WORD) ; Index of first character in file name beyond the common prefix
                      ; shared by all
                      (DIRECTORYSTART WORD) ; Index of first character of directory in file names

```

```

(INFOSTART WORD) ; X position in browser where first col of info is displayed
(NAMEOVERHEAD WORD) ; This plus width of name gives is how much to allow before
; INFOSTART
(OVERFLOWSPACING WORD) ; Increment between sizes considered for INFOSTART
(DIGITWIDTH WORD) ;
(TOTALFILES WORD) ; Total number of files, deleted files, pages, deleted pages at the
; moment

(DELETEDFILES WORD) ;
(TOTALPAGES POINTER) ;
(DELETEDPAGES POINTER) ;
(PAGECOUNT? POINTER) ; True if INFOCHOICES includes SIZE or LENGTH, so that we
; can count pages
(COUNTERPOSITIONS POINTER) ; List of pairs (left right) describing regions where the values of
; the counters are displayed
(COUNTERPAGESTRING POINTER) ; String to print after file/page count
(OVERFLOWWIDTHS POINTER) ; List of (xpos occurrences) describing files whose names
; exceed default INFOSTART
(INFOMENUCHOICES POINTER) ; Selections user has made in Info window, not necessarily the
; info currently displayed
(UPDATEPROC POINTER) ; Process doing an Update (Recompute)
(DEFAULTDIR POINTER) ; Default directory for destination of Copy/Rename
(SORTATTRIBUTE POINTER) ; Attribute being sorted on, or NIL if by name
(SORTMENU POINTER) ;
(FBLOCK POINTER) ; Lock acquired by filebrowser operations
(SORTINDEX WORD) ; Index (zero-based) in file info of the sort attribute
(SIZEINDEX WORD) ; Index of size attribute
(FBDEPTH POINTER) ; Enumeration depth, or NIL for default
(ABORTWINDOW POINTER) ; Dotted pair of (abortwindow . menuw) for this browser's abort
; window.

DUMMY))
)

```

```

(/DECLAREDATATYPE 'FBFILEDATA ' (POINTER POINTER POINTER FLAG FLAG FLAG POINTER BYTE POINTER WORD WORD WORD WORD
POINTER)

```

```

;; ---field descriptor list elided by lister---
' 18)

```

```

(/DECLAREDATATYPE 'FILEBROWSER
' (FLAG FLAG FLAG FLAG FLAG FLAG FLAG FLAG BYTE BYTE POINTER POINTER POINTER POINTER POINTER POINTER
POINTER POINTER POINTER POINTER POINTER POINTER POINTER WORD WORD WORD WORD WORD WORD WORD WORD POINTER
POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER WORD WORD
POINTER POINTER POINTER)

```

```

;; ---field descriptor list elided by lister---
' 66)

```

```

(DECLARE\ : EVAL@COMPILE

```

```

(RPAQQ FB.MORE.BORDER 8)

```

```

(RPAQQ FB.NULL.VERSION 0)

```

```

(CONSTANTS FB.MORE.BORDER FB.NULL.VERSION)
)

```

```

(DECLARE\ : EVAL@COMPILE

```

```

(PUTPROPS NULL.VERSIONP MACRO ((V)
(EQ V 0)))

```

```

(PUTPROPS NULL.DIRECTORYP MACRO ((FILEDATA)
(EQ (FETCH (FBFILEDATA SUBDIREND) OF FILEDATA)
0)))

```

```

(PUTPROPS EQ.DIRECTORYP MACRO (OPENLAMBDA (FD1 FD2)
(STRING-EQUAL (|fetch| (FBFILEDATA FILENAME) |of| FD1)
(|fetch| (FBFILEDATA FILENAME) |of| FD2)
:END1
(|fetch| (FBFILEDATA SUBDIREND) |of| FD1)
:END2
(|fetch| (FBFILEDATA SUBDIREND) |of| FD2))))

```

```

(PUTPROPS NULL.FIELDP MACRO (OPENLAMBDA (STR)
(OR (NULL STR)
(EQ (NCHARS STR)
0))))
)

```

```

(DECLARE\ : DOEVAL@COMPILE DONTCOPY

```

```

(GLOBALVARS FB.ICONFONT FB.BROWSERFONT FB.PROMPTFONT FB.MENUFONT FB.HARDCOPY.FONT FB.HARDCOPY.DIRECTORY.FONT
FB.EXPUNGE?MENU FB.CLOSE.MENU.ITEMS FB.DEPTH.MENU.ITEMS FB.MENU.ITEMS FB.DEFAULT.INFO FB.INFOSHADE
FB.INFO.MENU.ITEMS FB.ITEMUNSELECTEDSHADE FB.ITEMSELECTEDSHADE DIRCOMMANDS FB.PROMPTLINES FB.INFO.FIELDS
|WindowTitleDisplayStream| FB.ICONSPEC FB.DEFAULT.NAME.WIDTH FB.OVERFLOW.MAXABSOLUTE FB.OVERFLOW.MAXFRAC
FB.DEFAULT.EDITOR FB.BROWSER.DIRECTORY.FONT ITALICFONT PRINTFILETYPES)
)

```

(DECLARE\ : DOEVAL@COMPILE DONTCOPY

(LOCALVARS . T)
)
)

(/DECLAREDATATYPE 'FILEBROWSER
' (FLAG FLAG FLAG FLAG FLAG FLAG FLAG FLAG BYTE BYTE POINTER POINTER POINTER POINTER POINTER POINTER
POINTER POINTER POINTER POINTER POINTER POINTER POINTER WORD WORD WORD WORD WORD WORD WORD WORD POINTER
POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER POINTER WORD WORD
POINTER POINTER POINTER)

;; ---field descriptor list elided by lister---

' 66)

(/DECLAREDATATYPE 'FBFILEDATA ' (POINTER POINTER POINTER FLAG FLAG FLAG POINTER BYTE POINTER WORD WORD WORD WORD
POINTER)

;; ---field descriptor list elided by lister---

' 18)

(ADDTOVAR **SYSTEMRECLST**

(DATATYPE FILEBROWSER ((NOSUBDIRECTORIES FLAG)
(NSPATTERN? FLAG)
(SHOWUNDELETED? FLAG)
(PATTERNPARSED? FLAG)
(SORTBYDATE FLAG)
(FBREADY FLAG)
(ABORTING FLAG)
(FIXEDTITLE FLAG)
(FBCOMPUTEDDEPTH BYTE)
(FBDISPLAYEDDEPTH BYTE)
(TABLEBROWSER POINTER)
(BROWSERWINDOW POINTER)
(COUNTERWINDOW POINTER)
(HEADINGWINDOW POINTER)
(INFOMENUW POINTER)
(PROMPTWINDOW POINTER)
(INFODISPLAYED POINTER)
(PATTERN POINTER)
(PREPARED PATTERN POINTER)
(SEEWINDOW POINTER)
(BROWSERFONT POINTER)
(SORTBY POINTER)
(NAMESTART WORD)
(DIRECTORYSTART WORD)
(INFOSTART WORD)
(NAMEOVERHEAD WORD)
(OVERFLOWSPACING WORD)
(DIGITWIDTH WORD)
(TOTALFILES WORD)
(DELETEDFILES WORD)
(TOTALPAGES POINTER)
(DELETEDPAGES POINTER)
(PAGECOUNT? POINTER)
(COUNTERPOSITIONS POINTER)
(COUNTERPAGESTRING POINTER)
(OVERFLOWWIDTHS POINTER)
(INFOMENUCHOICES POINTER)
(UPDATEPROC POINTER)
(DEFAULTDIR POINTER)
(SORTATTRIBUTE POINTER)
(SORTMENU POINTER)
(FBLOCK POINTER)
(SORTINDEX WORD)
(SIZEINDEX WORD)
(FBDEPTH POINTER)
(ABORTWINDOW POINTER)
DUMMY))
(DATATYPE FBFILEDATA ((FILENAME POINTER)
(FILEINFO POINTER)
(VERSIONLESSNAME POINTER)
(DIRECTORYP FLAG)
(HASDIRPREFIX FLAG)
(DIRECTORYFILEP FLAG)
(SIZE POINTER)
(FILEDEPTH BYTE)
(SORTVALUE POINTER)
(SUBDIREND WORD)
(STARTOFFPNAME WORD)
(VERSION WORD)
(STARTOFFNAME WORD)
DUMMY)))

(DECLARE\ : DONTEVAL@LOAD DOCOPY

```
{MEDLEY}<library>FILEBROWSER.;1

(MOVD? 'PROMPTFORWARD 'TTYINPROMPTFORWARD NIL T)

(ADDTOVAR *ATTACHED-WINDOW-COMMAND-SYNONYMS* (HARDCOPYIMAGEW.TOFILE . HARDCOPYIMAGEW)
(HARDCOPYIMAGEW.TOPRINTER . HARDCOPYIMAGEW))

(ADDTOVAR |BackgroundMenuCommands| ("FileBrowser" '(FILEBROWSER)
"Opens a filebrowser window; prompts for pattern"))

(RPAQQ |BackgroundMenu| NIL)
)

(DECLARE\ : DONTVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILEVAR)

(ADDTOVAR NLAMA FB)

(ADDTOVAR NLAML )

(ADDTOVAR LAMA FB.PROMPTW.FORMAT FB.PROMPTWPRINT)
)
```

FUNCTION INDEX

FB .....	5	FB.HARDCOPYCOMMAND .....	18
FB.ADD.FILE .....	28	FB.HEADINGW.DISPLAY .....	39
FB.ADD.FILEGROUP .....	28	FB.HEADINGW.REDISPLAYFN .....	38
FB.ADJUST.DATE.WIDTH .....	25	FB.HEADINGW.RESHAPEFN .....	38
FB.AFTERCLOSEFN .....	40	FB.ICONFN .....	39
FB.ALLOW.ABORT .....	9	FB.INCREASING.NUMERIC.ATTR .....	31
FB.ALPHABETIC.ATTR .....	32	FB.INCREASING.VERSION .....	31
FB.ANALYZE.PATTERN .....	29	FB.INFO.ITEM.NAMED .....	36
FB.BROWSECOMMAND .....	20	FB.INFOMENU.SHADEINITIALSELECTIONS .....	36
FB.CANONICAL.DIRECTORY .....	17	FB.INFOMENU.WHENSELECTEDFN .....	39
FB.CANONICALIZE.PATTERN .....	30	FB.INSERT.DIRECTORY .....	28
FB.CHECK.NAME.LENGTH .....	27	FB.INSERT.FILE .....	29
FB.CLOSE&EXPUNGE .....	40	FB.INSERT.SUBDIRECTORIES .....	33
FB.CLOSEFN .....	39	FB.IS.NOT.SUBDIRECTORY.ITEM .....	13
FB.COMMANDSELECTEDFN .....	11	FB.LOADCOMMAND .....	22
FB.COMPILECOMMAND .....	23	FB.MAKE.BROWSER.BUSY .....	11
FB.COPY/RENAME.COMMAND .....	14	FB.MAKE.SUBDIRECTORY.ITEM .....	28
FB.COPY/RENAME.MANY .....	14	FB.MAKECOUNTERWINDOW .....	37
FB.COPY/RENAME.ONE .....	14	FB.MAKEHEADINGWINDOW .....	38
FB.COPYBINARYCOMMAND .....	6	FB.MAKERIGIDWINDOW .....	10
FB.COPYCOMMAND .....	14	FB.MAYBE.EXPUNGE .....	23
FB.COPYFN .....	11	FB.MAYBE.INSERT.FILE .....	16
FB.COPYTEXTCOMMAND .....	6	FB.MAYBE.WIDEN.NAMES .....	26
FB.COUNT.FILE.CHANGE .....	35	FB.MENU.WHENSELECTEDFN .....	11
FB.COUNTER.STRING .....	38	FB.MERGE.DIRECTORIES .....	15
FB.COUNTERW.REDISPLAYFN .....	37	FB.NAMES.DECREASING.VERSION .....	31
FB.CREATE.FILEBUCKET .....	26	FB.NAMES.INCREASING.VERSION .....	31
FB.DATE .....	25	FB.NEWINFOCOMMAND .....	34
FB.DECREASING.NUMERIC.ATTR .....	31	FB.NEWPATTERNCOMMAND .....	34
FB.DECREASING.VERSION .....	31	FB.OPERATE.ON.FILES .....	23
FB.DELETE.FILE .....	13	FB.OPTIONSCOMMAND .....	36
FB.DELETECOMMAND .....	12	FB.PRINTFN .....	10
FB.DELVER.FILES .....	13	FB.PROMPTFORINPUT .....	9
FB.DELVERCOMMAND .....	12	FB.PROMPTW.FORMAT .....	8
FB.DEPTHCOMMAND .....	34	FB.PROMPTW.PRINT .....	8
FB.DIRECTORYP .....	8	FB.REMOVE.FILE .....	35
FB.DISPLAY.COUNTERS .....	37	FB.RENAMECOMMAND .....	14
FB.EDITCOMMAND .....	19	FB.SEEBUTTONFN .....	22
FB.EDITCOMMAND.ONEFILE .....	19	FB.SEEFULLFN .....	22
FB.EDITLISPFIL .....	20	FB.SELECTEDFILES .....	8
FB.EXPUNGE?.MENU .....	39	FB.SET.BROWSER.TITLE .....	25
FB.EXPUNGECOMMAND .....	33	FB.SET.DEFAULT.NAME.WIDTH .....	26
FB.FASTSEE.ONEFILE .....	21	FB.SETNEWPATTERN .....	36
FB.FASTSEECOMMAND .....	21	FB.SHAPECOMMAND .....	34
FB.FETCHFILENAME .....	8	FB.SORT.VERSIONS .....	30
FB.FINISH.COMMAND .....	12	FB.SORTCOMMAND .....	32
FB.FIX-DIRECTORY-DATES .....	23	FB.STARTUP .....	10
FB.GET.NEW.FILE.SPEC .....	17	FB.SUBITEMP .....	11
FB.GET.NEWPATTERN .....	36	FB.TABLEBROWSER .....	8
FB.GET.SORT.MENU .....	33	FB.UNDELETE.FILE .....	13
FB.GETALLFILEINFO .....	30	FB.UNDELETEALLCOMMAND .....	13
FB.GETWINDOW .....	36	FB.UNDELETECOMMAND .....	13
FB.GREATEST.PREFIX .....	15	FB.UPDATE.COUNTERS .....	37
FB.HANDLE.ABORT.BUTTON .....	12	FB.UPDATEBROWSERITEMS .....	23
FB.HARDCOPY.DIRECTORY .....	40	FB.UPDATECOMMAND .....	23
FB.HARDCOPY.MAXWIDTH .....	42	FB.YES-OR-NO-P .....	9
FB.HARDCOPY.PRINT.TITLE .....	41	FILEBROWSER .....	6
FB.HARDCOPY.TOFILE .....	18	\\FB.HARDCOPY.TOFILE.EXTENSION .....	9

VARIABLE INDEX

*ATTACHED-WINDOW-COMMAND-SYNONYMS*	45	FB.INFO.FIELDS .....	5
BackgroundMenu  .....	45	FB.INFO.MENU.ITEMS .....	5
BackgroundMenuCommands  .....	45	FB.INFO.SHADE .....	5
CACHEDMENUS .....	4	FB.ITEMSELECTEDSHADE .....	5
FB.BROWSER.DIRECTORY.FONT .....	4	FB.ITEMUNSELECTEDSHADE .....	5
FB.BROWSERFONT .....	4	FB.MENU.ITEMS .....	4
FB.CLOSE.MENU.ITEMS .....	5	FB.MENUFONT .....	4
FB.DEFAULT.EDITOR .....	4	FB.OVERFLOW.MAXABSOLUTE .....	4
FB.DEFAULT.INFO .....	4	FB.OVERFLOW.MAXFRAC .....	4
FB.DEFAULT.NAME.WIDTH .....	5	FB.PROMPTFONT .....	4
FB.DEPTH.MENU.ITEMS .....	5	FB.PROMPTLINES .....	4
FB.EXPUNGE?.MENU .....	3	FB.SEE.METHODS .....	4
FB.HARDCOPY.DIRECTORY.FONT .....	4	FB.VERSION.MENU.ITEMS .....	5
FB.HARDCOPY.FONT .....	4	SYSTEMRECLST .....	44
FB.ICONSPEC .....	3		

---

**MACRO INDEX**

EQ.DIRECTORYP .....43    NULL.DIRECTORYP .....43    NULL.FIELDP .....43    NULL.VERSIONP .....43

---

**RECORD INDEX**

FBFILEDATA .....42    FILEBROWSER .....42    INFOFIELD .....42

---

**CONSTANT INDEX**

FB.MORE.BORDER .....43    FB.NULL.VERSION .....43

---

**COMMAND INDEX**

"fb" .....5

---