

File created: 3-Feb-91 14:11:40 {PELE:MV:ENVOS}<LISPCORE>INTERNAL>LIBRARY>GIVE-AND-TAKE.;4

changes to: (COMMANDS "take")
(FUNCTIONS TAKE-FILE)

previous date: 15-Jun-90 14:20:18 {PELE:MV:ENVOS}<LISPCORE>INTERNAL>LIBRARY>GIVE-AND-TAKE.;3

Read Table: XCL

Package: INTERLISP

Format: XCCS

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```
(RPAQQ GIVE-AND-TAKECOMS ((COMMANDS "give?" "taken?" "give" "take" "steal")
  (FUNCTIONS GIVE-OR-TAKE-FIND ADD-DEFAULT-REGISTRY SEND-STEAL-MESSAGE GIVE-FILE
    TAKE-FILE TAKEN?)
  (VARIABLES *GIVE-AND-TAKE-DIRECTORIES*)
  (PROP FILETYPE GIVE-AND-TAKE)))
```

```
(DEFCOMMAND "give?" NIL (TAKEN? :GIVE? T))
```

```
(DEFCOMMAND "taken?" (&REST ARGS) (CL:APPLY #'TAKEN? ARGS))
```

```
(DEFCOMMAND "give" (&REST FILES) (FOR FILE IN FILES ALWAYS (GIVE-FILE FILE)))
```

```
(DEFCOMMAND "take" (&REST FILES)
```

```
;; Give the issuer a "lock" on the files he asks for. If you give more than one file name, it'll stop if it hits one you can't have the lock to.
```

```
(FOR FILE IN FILES ALWAYS (TAKE-FILE FILE)))
```

```
(DEFCOMMAND "steal" (&REST FILES) (FOR FILE IN FILES ALWAYS (TAKE-FILE FILE T)))
```

```
(CL:DEFUN GIVE-OR-TAKE-FIND (FILENAME)
  (LET ((NAME (FINDFILE FILENAME T *GIVE-AND-TAKE-DIRECTORIES*)))
    (COND
      (NAME NAME)
      (T (CL:FORMAT T "~A does not exist and so cannot be taken or given.~%" FILENAME)
        NIL))))
```

```
(CL:DEFUN ADD-DEFAULT-REGISTRY (NAME)
```

```
;;; Adds default registry to NAME if there isn't one there already
```

```
(COND
  ((OR (STRPOS "." NAME)
    (NULL DEFAULTREGISTRY))
  NAME)
  (T (CONCAT NAME "." DEFAULTREGISTRY)))
```

```
(CL:DEFUN SEND-STEAL-MESSAGE (THIEF AUTHOR FILE)
  (LAFITE.SENDMESSAGE (MKSTRING (CL:FORMAT NIL "Subject: File stolen
    To: ~A
```

```
~A just stole the file ~A from you.
```

```
The STEAL command" AUTHOR THIEF FILE))))
```

```
(CL:DEFUN GIVE-FILE (FILENAME)
```

```
"Find the file named and look for a STATUS file associated with it. If found and this user wrote it, then
remove it, thus unlocking the file."
```

```
(LET ((NAME (GIVE-OR-TAKE-FIND FILENAME))
  (STATUS-STREAM TAKEN-BY)
  (COND
```

```
( (NULL NAME)
  NIL)
```

```
( (NOT (STREAMP (SETQ STATUS-STREAM (CAR (NLSETQ (OPENSTREAM (PACKFILENAME.STRING 'EXTENSION
  'STATUS
  'VERSION 1 'BODY NAME)
  'INPUT NIL ' (DON\TCACHE))))))
  (CL:FORMAT T "Sorry, but you can't give what you haven't taken.~%~A has not been taken by anyone,
    including you.~%" NAME)
  NIL)
```

```
( (STRING-EQUAL (SETQ TAKEN-BY (ADD-DEFAULT-REGISTRY (CL:READ STATUS-STREAM)))
  (ADD-DEFAULT-REGISTRY (USERNAME))) ; We're a winner
  (DELFILE (CLOSEF STATUS-STREAM))
  (CL:FORMAT T "~A is now unlocked.~%" NAME)
  T)
```

```

(T
  (CL:FORMAT T "Sorry, but you can't give what you haven't taken.~%~A was taken by ~A on ~A.~%" NAME
    TAKEN-BY (CL:READ STATUS-STREAM))
  (CLOSEF STATUS-STREAM)
  NIL)))

(CL:DEFUN TAKE-FILE (FILENAME &OPTIONAL STEAL)
  ;; Find the given file and open a status file to be associated with it. If the file we open turns out to be version 1, then we've got the lock and we write
  ;; our name and the date into the file. Otherwise, somebody (possibly us!) has already got it and the lock cannot be obtained. HOWEVER: If we're
  ;; the lock's owner already, indicate success -- the point is to grab the lock, not to find out if it's locked before!
  (RESETLST
    (PROG ((GROSS-LIST-HACK (LIST NIL NIL T))
      NAME STATUS-NAME STATUS-NAME-PARTS STATUS-VERSION SUCCESS)
      (COND
        ((NOT (CL:SETF NAME (GIVE-OR-TAKE-FIND FILENAME))))
        (RETURN NIL)))
      (CL:SETF STATUS-NAME (PACKFILENAME.STRING 'EXTENSION 'STATUS 'VERSION NIL 'BODY NAME))
      (CL:MACROLET ((STATUS-STREAM NIL ' (CL:FIRST GROSS-LIST-HACK))
        (STATUS-FULL-NAME NIL ' (CL:SECOND GROSS-LIST-HACK))
        (FINISHED-NORMALLY-P NIL ' (CL:THIRD GROSS-LIST-HACK)))
        (RESETSAVE NIL (LIST (FUNCTION (CL:LAMBDA (NAME GROSS-LIST-HACK)
          ;; We have been interrupted during processing. Close any open streams and
          ;; delete the status file we were making.
          (CL:WHEN (NOT (FINISHED-NORMALLY-P))
            (CL:FORMAT T "Interrupted during processing of ~A.
              Take aborted.~%" NAME)
            (CL:WHEN (AND (NULL (STATUS-FULL-NAME))
              (STREAMP (STATUS-STREAM)))
              ; If STATUS-FULL-NAME was never set, then
              ; STATUS-STREAM, if open, must refer to the new status file.
              (CL:SETF (STATUS-FULL-NAME)
                (FULLNAME (STATUS-STREAM))))
            (CL:IF (STREAMP (STATUS-STREAM))
              (CLOSEF? (STATUS-STREAM)))
            (CL:IF (NOT (NULL (STATUS-FULL-NAME)))
              (DELFILE (STATUS-FULL-NAME))))))
          NAME GROSS-LIST-HACK))
        (CL:SETF (STATUS-STREAM)
          (OPENSTREAM STATUS-NAME 'OUTPUT NIL ' (DON\TCACHE)))
        (CL:SETF (STATUS-FULL-NAME)
          (FULLNAME (STATUS-STREAM)))
        (COND
          ((= (FILENAMEFIELD (STATUS-FULL-NAME)
            'VERSION)
            1)
            ; We're a winner
            (LET ((UNAME (ADD-DEFAULT-REGISTRY (USERNAME)))
              (D (DATE)))
              (CL:FORMAT (STATUS-STREAM)
                "~S ~S~%" UNAME D)
              (CLOSEF (STATUS-STREAM))
              (CL:FORMAT T "~A is now locked by ~A at ~A.~%" NAME UNAME D))
            (LET ((ROOTNAME (ROOTFILENAME NAME))
              (INSTALLEDVERSION)
              (COND
                ((AND (GET ROOTNAME 'FILE)
                  (NOT (STRING-EQUAL NAME (SETQ INSTALLEDVERSION (CDAR (GET ROOTNAME
                    'FILEDATES))))))
                  (CL:FORMAT T "Warning: File ~A is different from loaded file ~A~%" NAME
                    INSTALLEDVERSION)))
              (CL:SETF SUCCESS T))
            (T
              ; We're a loser at first blush
              ; (exception: we had the file locked already)
              (CLOSEF (STATUS-STREAM))
              (DELFILE (STATUS-FULL-NAME))
              (CL:SETF (STATUS-STREAM)
                (CAR (NLSETQ (OPENSTREAM (PACKFILENAME.STRING 'VERSION 1 'BODY (
                  STATUS-FULL-NAME
                ))
                  'INPUT NIL ' (DON\TCACHE))))))
              (COND
                ((NOT (STREAMP (STATUS-STREAM)))
                  (CL:FORMAT T "Bad situation: Illegal versions of the status file exist.~&Try again
                    in a moment or try to fix the problem.~%")
                  (CL:SETF SUCCESS NIL))
                (STEAL
                  ;; If we're going to steal it, we should send the former locker a notice.
                  (CL:FORMAT T "Stealing ~A (and sending ~A a message about it).~%" NAME
                    (GETFILEINFO (STATUS-STREAM)
                      'AUTHOR))
                  (ADD.PROCESS '(SEND-STEAL-MESSAGE ', (USERNAME NIL NIL T)
                    ', (GETFILEINFO (STATUS-STREAM)
                      'AUTHOR)
                    ', NAME))
                  (CLOSEF (STATUS-STREAM))

```

```

        (DELFIL (FULLNAME (STATUS-STREAM)))
        (CL:SETF SUCCESS (TAKE-FILE FILENAME NIL)))
    ((PROG1 (NOT (NLSETQ (LET ((TAKEN-BY (CL:READ (STATUS-STREAM)))
                                (TAKEN-ON (CL:READ (STATUS-STREAM))))
                            (CL:IF (STRING-EQUAL TAKEN-BY (ADD-DEFAULT-REGISTRY
                                                                (USERNAME)))
                                (PROGN (CL:FORMAT T "You've already had ~A taken,
                                                    since ~A.~%" NAME TAKEN-ON)
                                        ;; This case is really a success: We've got the lock. Return T so the
                                        ;; "take" command will keep going.
                                        (CL:SETF SUCCESS T))
                                (CL:FORMAT T "Sorry, but ~A was already taken by ~A
                                                    on ~A.~%" NAME TAKEN-BY TAKEN-ON))))))
        (CLOSEF (STATUS-STREAM)))
    (CL:FORMAT T "Bad situation: Only an illegal status file exists.~%Try again in a
        moment or try to fix the problem.~%")
    (CL:SETF SUCCESS NIL))))
    (CL:SETF (FINISHED-NORMALLY-P)
        T))
    (RETURN SUCCESS)))

(CL:DEFUN TAKEN? (&KEY ((:BY AUTHOR)
                        GIVE?))
  (COND
    ((NULL AUTHOR)
     (SETQ AUTHOR (USERNAME))
     (COND
      ((STRPOS "." AUTHOR)
       (SETQ AUTHOR (SUBSTRING AUTHOR 1 (SUB1 (STRPOS "." AUTHOR))))))
    ((OR (STRING-EQUAL AUTHOR "ANY")
         (STRING-EQUAL AUTHOR "ALL")
         (STRING-EQUAL AUTHOR "**"))
     (SETQ AUTHOR NIL)))
    (|printout| T "Looking for files taken by " (OR AUTHOR "any")
      T)
    (|for| DIR |in| *GIVE-AND-TAKE-DIRECTORIES*
      |do| (RESETLST
        (LET ((GEN (\\GENERATEFILES (PACKFILENAME.STRING 'DIRECTORY DIR 'NAME "*" 'EXTENSION "STATUS")
                                ' (AUTHOR CREATIONDATE)
                                ' (RESETLST)))
              NEXT THISAUTHOR DIRPRINTED)
          (|while| (SETQ NEXT (\\GENERATENEXTFILE GEN))
            |when| (PROGN (SETQ THISAUTHOR (\\GENERATEFILEINFO GEN 'AUTHOR))
                          (OR (NULL AUTHOR)
                              (STRPOS AUTHOR THISAUTHOR 1 NIL T NIL UPPERARRAY)))
              |do| (COND
                ((NOT DIRPRINTED)
                 (|printout| T T " " DIR T)
                 (SETQ DIRPRINTED T)))
                (|printout| T (FILENAMEFIELD NEXT 'NAME)
                  16
                  (\\GENERATEFILEINFO GEN 'CREATIONDATE)
                  40 THISAUTHOR)
                (COND
                  ((NOT GIVE?)
                   (TERPRI T))
                  ((EQ (ASKUSER NIL NIL " Give? " NIL T)
                       'Y)
                   (GIVE-FILE (PACKFILENAME.STRING 'EXTENSION NIL 'VERSION NIL 'BODY NEXT))))))))))

(DEFGLOBALVAR *GIVE-AND-TAKE-DIRECTORIES* ' ("{Pele:mv:envos}<Lispcore>Sources>"
                                             "{Pele:mv:envos}<Lispcore>Library>"
                                             "{Pele:mv:envos}<Lispcore>Internal>Library>"
                                             "{Pele:mv:envos}<LispUsers>Lispcore>"
                                             "{Pele:mv:envos}<CmL>Test>"))

(PUTPROPS GIVE-AND-TAKE FILETYPE CL:COMPILE-FILE)

(PUTPROPS GIVE-AND-TAKE COPYRIGHT ("Venue & Xerox Corporation" 1986 1990 1991))

```

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