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--File: WindExDefs.mesa
--Edited by:
--      Sandman April 21, 1978 11:34 AM
--      Barbara May 15, 1978 5:29 PM
```

#### DIRECTORY

```
InlineDefs: FROM "inlinedefs" USING [LongDivMod, LongMult],
KeyDefs: FROM "keydefs" USING [MouseButton],
MenuDefs: FROM "menudefs" USING [MenuItem],
Mopcodes: FROM "mopcodes" USING [zPOP],
RectangleDefs: FROM "rectangledefs" USING [DCBptr, FAptr, leftmargin],
WindowDefs: FROM "windowdefs" USING [
    BMHandle, DiskHandle, DisplayHandle, NullIndex, OriginIndex, Rptr,
    StreamHandle, StreamIndex, WindowHandle, xCoord, yCoord];
```

DEFINITIONS FROM MenuDefs, RectangleDefs, WindowDefs;

```
WindExDefs: DEFINITIONS =
BEGIN
```

-- some TYPE'S and POINTERS

```
WEDataHandle: TYPE = POINTER TO WEDataObject;
AMouseButton: TYPE = KeyDefs.MouseButton;
KeySet: TYPE = [0..37B];
ButtonProc: PUBLIC TYPE = PROCEDURE[WindowHandle, xCoord, yCoord];
ProcArray: PUBLIC TYPE = ARRAY AMouseButton OF ButtonProc;
CursorType: TYPE = {textpointer, arrow, bullseye, leftbutton,
    uparrow, downarrow, botharrow, hourglass, norm, menu};
CursorArray: TYPE = ARRAY [0..15] OF CARDINAL;
```

-- programs implementing the Window Executive

```
WEPosition: PROGRAM [WEState: WEDataHandle];
WESelection: PROGRAM [WEState: WEDataHandle];
WEWindows: PROGRAM [WEState: WEDataHandle];
WEMain: PROGRAM [WEState: WEDataHandle];
WEBreak: PROGRAM [WEState: WEDataHandle];
WEControl: PROGRAM; -- Control Module
```

-- procedures implementing the Window Executive

```
WindowExecutive: PROCEDURE;
GetMouseButton: PROCEDURE RETURNS[AMouseButton];
GetKeySet: PROCEDURE RETURNS[KeySet];
CursorToRectangleCoords: PROCEDURE [Rptr, xCoord, yCoord]
    RETURNS[xCoord, yCoord];
SetCursor: PROCEDURE [CursorType];
SetJumpStripe: PROCEDURE [WindowHandle, BOOLEAN];
NullProc: PROCEDURE [WindowHandle, xCoord, yCoord];
NoteNameError: PROCEDURE [WindowHandle, STRING];
WriteMessageString: PROCEDURE [WindowHandle, STRING];
AssignScratchFile: PROCEDURE RETURNS[STRING, INTEGER];
LoadThisWindow: PROCEDURE [w: WindowHandle];
LoadWindow: PROCEDURE [w: WindowHandle, x: xCoord, y: yCoord];
GrowWindow: PROCEDURE [w: WindowHandle, x: xCoord, y: yCoord];
MoveWindow: PROCEDURE [w: WindowHandle, x: xCoord, y: yCoord];
DestroyWindow: PROCEDURE [w: WindowHandle, x: xCoord, y: yCoord];
CreateWindow: PROCEDURE [w: WindowHandle, x: xCoord, y: yCoord];
PutSelect: PROCEDURE [w: WindowHandle, x: xCoord, y: yCoord];
WordSelect: PROCEDURE [w: WindowHandle, x: xCoord, y: yCoord];
TextSelect: PROCEDURE [w: WindowHandle, x: xCoord, y: yCoord];
MenuSelect: PROCEDURE [w: WindowHandle, x: xCoord, y: yCoord];
PositionFile: PROCEDURE[w: WindowHandle, x: xCoord, y: yCoord];
ScrollUpFile: PROCEDURE[w: WindowHandle, x: xCoord, y: yCoord];
ScrollDownFile: PROCEDURE[w: WindowHandle, x: xCoord, y: yCoord];
NormalizeSelection: PROCEDURE[w: WindowHandle, x: xCoord, y: yCoord];
ReadEditChar: PROCEDURE [char: CHARACTER, w: WindowHandle];
LDivMod: PROCEDURE [a: LONG INTEGER, b: CARDINAL] RETURNS [q, r: CARDINAL] =
    LOOPHOLE[InlineDefs.LongDivMod];
LMult: PROCEDURE [a, b: CARDINAL] RETURNS [LONG INTEGER] =
    LOOPHOLE[InlineDefs.LongMult];
Shorten: PROCEDURE [a: LONG INTEGER] RETURNS [CARDINAL] =
    MACHINE CODE BEGIN Mopcodes.zPOP END;
```

-- constants

```
maxlines: CARDINAL = 80;
JumpStrip: CARDINAL = leftmargin;
slop: CARDINAL = 10;
maxscratch: CARDINAL = 4;
OriginIndex: StreamIndex = WindowDefs.OriginIndex;
NullIndex: StreamIndex = WindowDefs.NullIndex;

-- magic memory locations and contents
DCBchainHead: DCBptr = LOOPHOLE[420B];
xmouseloc: POINTER = LOOPHOLE[424B];
ymouseloc: POINTER = LOOPHOLE[425B];
xcursorloc: POINTER = LOOPHOLE[426B];
ycursorloc: POINTER = LOOPHOLE[427B];
buttonslot: POINTER = LOOPHOLE[177030B];
cursormap: POINTER = LOOPHOLE[431B];

--WindEx RECORD

WEDataObject: TYPE = RECORD [
  scratchfiles: ARRAY [0..maxscratch) OF DiskHandle,
  windows: ARRAY [0..4) OF WindowHandle,
  menuarray: DESCRIPTOR FOR ARRAY OF MenuItem, -- Filled in by WEWindows
  defaultfont: FAptr,
  defaultlineheight: CARDINAL,
  defaulttk: StreamHandle,
  defaulttd: DisplayHandle,
  defaultmapdata: BMHandle,
  useKeyset: BOOLEAN,
  currentcursor: CursorType,
  cxa, cya: [0..256),
  TextProcArray: ProcArray,
  ScrollProcArray: ProcArray,
  ButtonProcArray: ProcArray];

END. of wmanagerdefs
```