

## Inter-Office Memorandum

To Bob Ayers, Ed Satterthwaite,  
Smokey Wallace, John Wick,  
Richard Johnsson, Phil Karlton

From Barbara Koalkin

Subject Proposal for Debugger Interface

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Location Palo Alto

Organization SDD/SD

XEROX

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Present at today's meeting: Ayers, Johnsson, Karlton, Koalkin, Satterthwaite, Wallace, and Wick.

The following is a summary of suggestions discussed at today's meeting:

- \* Progress has been made by Smokey and Phil towards creating a model of the debugger/WindEx using the Tools environment. They have been able to simulate the user illusion presented by the current debugger interface (Debug.typescript window with a stream interface, sourcefile, and Mesa.typescript) and will try to implement a simple stack window as well. By next Monday, they anticipate having completed an early model that we can use for making some size comparisons and perform some front end experiments. This should help us resolve some of the present discussion regarding:
  - \* where does type-in go (to the window containing the current selection or the window containing the mouse)
  - \* which selection scheme to use (how many secondary "marking" facilities do we need)
  - \* where does stack output of variables and source get displayed and recorded (in the traditional Debug.typescript file, to a log, to a small window, say 3 lines, that is part of every stack window). We must remember to distinguish between the places where the output appears and where the history gets recorded, even if initially they are the same.
  - \* where does interpreter live (in its own window, as part of every stack window, in the typescript window)
  - \* what the initial window configuration should look like (how many windows, what size/shape should they be)
- \* We discussed the idea of having  $n$  stack windows around, one per process, with context information in the upper part of the window (either the information that gets updated when the context is changed or static information that is the initial context upon creating the window). The stack commands are invoked as (hopefully) single keystrokes (and possibly a menu) such as "v" meaning display the local variables and "n" meaning display the next procedure on the stack (and make it the current context?). There was a suggestion made to implement jumping around the stack by means of scrolling functions; this might be nice graphically, but not precise enough for our needs.
- \* We still need to discuss how to create a stack window and the notion of a "distinguished" current context as contrasted with the current context associated with every stack window.
- \* Some thing we did agree on were: we will try to use single character as commands wherever possible and that characters can mean different things in different windows.

Action items:

- \* Smokey and Phil will finish building the WindEx equivalent.
- \* BK will put together some experiments based on the new WindEx environment to test out some of the ideas that have been proposed; also draw up a list of all the input and output functions of the debugger in order to determine how it will all happen.
- \* The next meeting will be held on Monday, 30 October at 10 a.m. in the front conference room.