

Inter-Office Memorandum

To David Liddle Date June 29, 1978
From John Wick Location Palo Alto
Subject Mesa release plan Organization SDD/SD

XEROX

XEROX SDD ARCHIVES

I have read and understood

Pages _____ To _____

Reviewer _____ Date _____

of Pages _____ Ref. 28SDD-153

Filed on: [MAXC] < WICK > MESARELEASEPLAN.BRAVO

This memo reflects our current thinking on Mesa release planning through 1979. It summarizes the results of several meetings with Bill Lynch (Pilot), Robert Kierr (Oak), Bob Metcalfe (System Architecture), Jerry Szelong (Product Software), and John Weaver (Development Environment). Most of the discussion centered on sorting out the dependencies of Pilot and Star on Mesa.

Pilot dependencies involve the machine architecture and Mesa runtime support. To minimize dependence on Development Environment systems, it was agreed that Pilot should be prepared to implement and maintain its own microcode and runtime software, separate from that used by the Alto/Mesa system. This will result in some amount of duplicated effort in maintaining two versions of these modules, but will greatly reduce the interdependencies of these two projects.

Star dependencies other than those contained within Pilot involve language features implemented by the Mesa compiler and binder. Both Pilot and Star depend on a debugger that understands the underlying architecture and runtime structure of programs written in Mesa.

Release Definition

Functional releases (designated *n.0*) may contain language or system changes as well as extensions, and therefore may require source editing. A maintenance release (designated *n.m*, *m* > 0) contains no source-level incompatibilities with its predecessor; existing programs compile, bind, and run without change (but to realize the benefit of a bug fix, minor source changes may be necessary). Recompilation of all or part of existing systems may be required.

Mesa Releases

Except for the short term, maintenance releases which might be required are not included in the following schedule. As Star approaches alpha and beta test status, it may be necessary to perform maintenance on systems older than the current release.

Mesa 4.1 August 31, 1978

This maintenance release cleans up any problems with long pointers discovered while testing Pilot on the D0. If it is needed, it will be available to Pilot Implementors on July 15 and will be alpha tested in conjunction with Pilot during August. A Pilot debugger is also included in this release.

Mesa 5.0 February 14, 1979

This release concentrates on major (priority one) language features needed for Star I (such as inline procedures and default parameters). Star I is scheduled to begin alpha test on August 31, 1979; language extensions provided after Mesa 5.0 will be too late to have much impact on Star I code. The features to be included must be identified well in advance (say, by December 1978) so they can be taken into account during Star design.

This release will also include features required for Pilot 3.0 (March, 1979) performance tuning. This will likely involve packaging of code into separate swap units for hot, cold, and initialization procedures and data. Some design work is necessary in this area.

Some cleanup and optimization of our Pilot 2.0 support (Startup program, Pilot/Mesa runtime and loader, and the Pilot debugger) will also be required.

Mesa 6.0 July 15, 1979

This release contains remaining (priority two) language features needed for Star I (such as coroutines, sequences, and sets). Debugging aids such as runtime range checking and uninitialized variable checking might also be included. As in Mesa 5.0, features must be identified well in advance (say, by March 1979) so they can be taken into account during Star design and implementation.

Mesa 7.0 November 30, 1979

This release implements the final PrincOps instruction set on the Dstar. The existing PrincOps defines several new instructions (about 50) which are not yet implemented; they are all straightforward combinations and extensions of existing opcodes which are expected to yield about a 10% increase in code density over Mesa 4.0. In addition, by mid 1979 there will be enough Pilot and Star code which uses long pointers and other new features to make another instruction set analysis worthwhile. Tuning of the runtime data structures will also be performed at this time.

Schedule Summary

				1/79						1/80
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Star									α	β
Pilot		2	2.1	3	3.1	3.2	4			
Mesa	4	4.1		5		6	7			

Distribution:

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