

April 22, 1966

M. D. McIlroy

MESSRS. F. J. CORBATO
E. R. VANCE
V. A. VYSSOTSKY

The Context Editor proposed for approval in BX.9.01 has some reasonable editing features, but should in no way be construed as "the multics editor". Multics design should be aimed at generality rather than a special class of user, in this case the small scale do-it-yourself guy with a typewriter. The features in this proposal are important, but should be merged into a comprehensive design for an editor.

Major shortcomings. The proposal addresses none of the objectives I set forth in B0039, "Big computing and multics". These objectives as discussed extensively in that document are:

audit capability
verify capability
off-line capability
physical separation of changes from base file
speed comparable to keypunching

Minor comments. Taken at face value as a mere redo of typeset, this editor is not outstanding. It gives up a little and adds a little.

1. "Find", the search request that I have found to be the most useful, has been dropped.
2. Backward scanning has been introduced, with the curious exception of printing backward. Printing backward should be allowed, not because anybody is terribly eager for it, but because it symmetrizes the system. The proposal takes "forward" and "reverse" to be opposites, as at the drag strip, rather than "forward" and "backward" as in English. (Webster gives backward as the only antonym of forward.)
3. Elaborate control over the editor's responses has been introduced.
4. For each method of scanning and retaining text, there should be a corresponding method of scanning and deleting text. That is the gaps in this proportion should be filled in

next:delete::locate:___::find:___

5. The file splitting feature has disappeared. It is hard to see how any other multics component can satisfactorily perform this service, since only the editor will have conventional ways to specify the split point.

"Don't care" or "anything but" modifications to a search request have often been mentioned as desirable, but no such feature has been added.

No method of editing noncanonical text is offered.

Suggestions

1. The source of editing requests should be switchable away from the input stream from which the editor was called, so that today's requests can be used again tomorrow.
2. It should be possible to have line numbers assigned and printed on a listing of the file. Search requests for absolute line number should work. No other technique I know makes a file of editing requests as intelligible for purposes of audit, nor allows as free an ordering of requests, nor is foolproof enough for off line use. There is no reason that line numbers should be assigned (as in CTSS Edit) before input is construed. Any combination of contextual and line-number searching should be permitted.
3. An appealing way to answer comment 4 above is to make deleting a modifier on each scanning request. Following the lead of BX.9.01 for forward and backward modifiers, we might have

nd -integer-
ld -character string-
fd -character string-

- meaning set the scan pointer to the selected line, deleting the line originally under the scan pointer and all intervening lines. nd 0 would mean delete the present line, but don't bump the scan pointer. The only problem in human engineering would be choice of the default value of -integer- in the "next" request. "0" is the only sensible one for delete, but "1" seems better for next.
4. A listing with changes in context showing either new or old or no line numbers should be constructible. Changes should be distinguishable in the listing.
 5. A line-by-line verify routine that does what a card verifier does, or a suitably clever file comparison routine should be designed.
 6. The feasibility of filtering I/O through the editor operated in off-line fashion should be studied. In this mode of operation, the editor would be inserted as a coroutine into any stream. By having the editor deliver its output direct to a processor rather than to a file, one whole file reading and file writing could be suppressed per run of that processor.

Action being taken

A. Kaiman is currently working on an augmented editor proposal, among the objectives of which are many of the items mentioned above.

MH-1371-MDM-gam

M. D. McILROY

Copy to

Messrs. A. Kaiman
C. Garman
R. Morris
P. G. Neumann
J. F. Ossanna
J. Saltzer

THIS COPY FOR