

Please  
to Dick HA

# XEROX

PALO ALTO RESEARCH CENTER

Office of the Center Manager

24 April 1979

To: D. Pendery  
From: R. Spinrad  
Subject: Home Information Systems/Personal Computers

For the last few years our Business-Product Strategy statements have referred to an "Emerging home oriented information system." For example, the 1978 LRP material prepared by Planning under "Other" information opportunities, talks about:

"Capitalizing on previous technology-development activities and the growing role of the Home in an increasingly dispersed information environment, provide "Home" oriented low cost limited capability "information" product derivatives (Time frame: 1985-1990+)."

The 1979 LRP Business-Product Strategy prepared by Planning also refers to "Emerging Home and mass market oriented information system products" as an information opportunity for us.

Considering the current immaturity of the market and the "IMO" period discussed (1985-1990+), these are certainly acceptable guidelines for Research. They set a general direction without, unreasonably, specifying the nature of the technologies a decade hence.

We have, however, a more immediate question on which I seek your guidance. The bulk of our work on small, personal computers is currently centered on Smalltalk as implemented on Notetaker. (Smalltalk is the language system; Notetaker is the briefcase-sized personal computer.) During this year we expect that a viable (and attractive) Smalltalk will be working on a viable (and attractive) Notetaker. By year-end, it is reasonable to assume that the scientists will want to publish a description of their successful work (both in hardware and software). This would be entirely appropriate, and in no way prejudicial to the Corporation's interests, if our first planned product introductions will be post-1983. If, however, Xerox (or an XDC affiliate) is planning a more near-term venture into the "home" computer market it might be most appropriate to channel our energies into the kind of "technology transfer" we talk so much about.

RECEIVED

APR 30 1979

D. W. PENDERY

The worst course, from my point of view, would be to limit the free publication of our work while, at the same time, doing nothing to utilize it ourselves. Smalltalk, as you know, is already well publicized. We get continued requests for both detailed, user-level descriptions and, more fundamentally, for the actual implementing code. We have not, so far, provided this information. The existence of our interest in something like Notetaker has been no secret in the scientific community. We have begun to receive tentative inquiries about it. We have not publicly described it.

For 1980, our current research plans call for projects which will use the Smalltalk/Notetaker system in field trials outside of PARC. The details of these experiments have not yet been developed so some understanding of the Corporation's business intentions for personal computers will be important for our planning process.

A Smalltalk/Notetaker system may have no commercial value. I can't judge. But I can tell you that with full disclosure (possibly licensing) a small "home" computer company could probably have one on the market in about a year. If we adopted a more restrictive publication policy it would probably take two to three years to "copy" it (if someone wanted to).

My immediate dilemma, then, is whether to encourage people:

- To freely publish - if there is to be no Xerox-wide commercial interest for five years
- To more circumspectly publish - if XDC wants to sell or license parts of the hardware/software system
- To limit publication - if a Xerox product program will make near-term use of the information.

I would appreciate any guidance you can offer.

c. GEPake  
ADStauffer  
DHSteininger  
WRSutherland



## Internal Memo

To

Jeff Rulifson

From

Richard J. Hayes

Subject

Spinrad/Pendery Memo dtd. 4/24/79

Date

May 3, 1979

Jeff, as we discussed, I would like you to develop a TIP position with regard to the questions raised on home information systems/personal computers by Bob Spinrad.

In your response, please explain the "notetaker" concept and status. Also comment on each of the options raised by Bob as background for your position.

Could you get this to me by May 30th? Thanks.

RJH:n

Attach.



# Inter-Office Memorandum

To	R. Hayes	Date	May 21, 1979
From	J.F. Rulifson	Location	Palo Alto
Subject	Smalltalk/NoteTaker Publication Policy	Organization	SSL

## XEROX

Filed on: < CRedell > Hayes.bravo

From my knowledge of corporate positions on publications, familiarity with corporate plans through the Technology Investment Planning effort, and my understanding of Smalltalk/NoteTaker, I believe Dr. Spinrad should encourage free publication of the Smalltalk/NoteTaker activities. I would like to explain this view by discussing the technological content of Smalltalk/NoteTaker and then addressing each of the options in detail.

Smalltalk is a system comprised of a methodology for program modularization, a programming language, and an interactive program construction environment. The system has been fully implemented on Altos for a number of years. The system is based on an unusual programming formalism called *object representation*. It is a significant departure from the dominant procedure formalism of Cobol, Fortran, Basic, Pascal, and Mesa, or the applicative formalism of APL and Lisp. Smalltalk has been widely publicized. The programming manual has been cleared for distribution, application programs have been presented through films, programming classes have been taught in Palo Alto public schools, the system was described in Scientific American, and the *object representation* formalism has been argued in the professional literature. Xerox could copyright the software interpreter and programming environment for all visual, magnetic, and electronic media. The corporation could then sell or license the right to reproduce the software and effectively control its distribution.

NoteTaker, on the other hand, is not a significant technical departure from current marketed personal computer systems nor has it been publicized. Simply, NoteTaker is Intel 8086 processors, memory, a display, standard floppy disks, and an Ethernet connection. (See manual.) It is packaged in a well-designed portable case with rechargeable batteries. Prototype machines are operating, and we expect to produce about ten machines this year. The Patent Department here in Palo Alto has discussed NoteTaker with the designers at PARC. They have not discovered any potentially patentable inventions. Even if there are no inventions to be patented, Xerox can sell or license the know-how of design and construction.

Thus, XDC may wish to sell or license certain parts of the system, specifically, the Smalltalk software interpreter and programming system for the 8086, or the NoteTaker hardware design. In either case, software or hardware, I doubt that XDC would choose to vend the product directly. It seems more appropriate, for example, for XDC to sell this product to a personal computer company that would, in turn, manufacture machines utilizing the design they bought from Xerox. It is my personal and somewhat uninformed guess that XDC would not choose to sell or license either of these two items. We must, however, verify this with them. If you provide me with the appropriate XDC contact, I would be pleased to investigate further.

The other option that might inhibit publications also seems untenable. As far as I know, Xerox has no plans whatever to enter the home market with the product. If I assume that it would take at least a year to establish a product program, and at least four years to analyze the market, design, produce, test, and prepare to market a product, I can only assume it will be after 1985 before a product can be sold. Thus, we will not make near term use of the technology in a product program.

Members of the Learning Research Group have expressed concerns about the future of their program. A very important part of the Smalltalk/NoteTaker research plans call for extensive experimentation with the system in environments outside Xerox. Thus, the researchers wish to furnish their colleagues with Smalltalk/NoteTaker systems and recover the cost of the hardware. This experimentation will call for complete international clearance, especially of the book in

preparation; the participants at universities and public schools cannot easily be selected and controlled. The VLSI/Systems Group has a similar plan. They would like to make NoteTaker machines available to their colleagues as VLSI design aids. So you can see the dilemma we may face. The Smalltalk/NoteTaker project was begun to enable the experiments. If XDC wishes to sell the Smalltalk interpreter, for example, the decision may affect the research program before the experiments begin.

We must check with XDC, but it is my guess that there is no near term Xerox-wide commercial interest, and following Dr. Spinrad's outline of the options, Parc researchers should be encouraged to freely publish their Smalltalk/NoteTaker work.

A handwritten signature in black ink, appearing to be "Jeff". The signature is written in a cursive, flowing style with a large initial "J" and a long, sweeping underline.

## Inter-Office Memorandum

To	R. Hayes	Date	May 31, 1979
From	J. Rulifson	Location	Palo Alto
Subject	Smalltalk/NoteTaker Publication Policy	Organization	SSL

# XEROX

On May 29, 1979, I discussed the XDC interest in Smalltalk/NoteTaker publication policy issues with Walter Menetrey. To my surprise, XDC has a significant interest in Smalltalk programming systems. Their interest, however, is not incompatible with the publication policy sought by the Learning Research Group at Parc, namely, freely publish.

XDC has an active interest in personal computing, has made specific contacts, and is formulating investment objectives. As I understand their position, they do not view Smalltalk/NoteTaker as a potential means of creating direct revenue for Xerox. That is, they do not have an interest in direct sale or licensing. They seem to have no interest in a NoteTaker design license. They do believe that the results of the Smalltalk project might be useful as a way of focusing Xerox strategic planning, leveraging Xerox relationships with a company we may support financially, or directly enhancing the image or marketing position of the company we support.

Mr. Menetrey suggested that the Learning Research Group plan for such activity and fully protect Xerox through the use of copyrights. Ultimately, the publication policy will encourage broad exposure of their work. Over the next three months the Learning Research Group should practice publication restraint. They should always copyright to guard the business goals of the potential Xerox partner.

This matter is of some urgency for XDC, and they have agreed to review their Smalltalk and position quickly. To that end, Frank La Haye and Roy Lahr will visit the Learning Research Group to learn first hand the current status of the project.

I believe we have reached a position in substance with respect to XDC. The Learning Research Group should be encouraged to publish. Final details of the position must await the XDC analysis of their visit.

c: W. Menetrey  
F. La Haye  
R. Lahr  
A. Kay

JF/cgl

## Internal Memo

WRS JUL 9 '79

To  
R. J. Spinrad

From  
D. W. Pendery

cc Alan  
Adele  
Chris  
Fairbairn

Subject  
Personal Computers

Date  
July 6, 1979

Re: 24 April 1979 Memo, RJS to DWP

Bob, I apologize for taking so long to respond to your request about the publication policy to be followed with regard to the PARC work on Home Information Systems/Personal Computers.

We have discussed the situation with Legal and XDC, as well as our own staff. The resulting position is that you should plan to freely publish this material.

There are some minor caveats which I would like to bring to your attention with regard to XDC. Although they have no interest in direct sale or licensing, I understand they might want to use the SMALLTALK project as a leverage factor in some potential external financing possibility. This would not restrict the freely publish policy, but it is suggesting that PARC fully protect Xerox through the use of copyrights.

Jeff Rulifson has been handling this assignment for us, and I suggest you might want to discuss it in more detail with him. I understand he has arranged to have XDC people meet with the PARC people to review the project.

Thus, in response to your specific question, we would encourage PARC to freely publish material in the area of personal computers, subject only to the copyright protection requested by XDC.

  
DWP:mb

c: ADStauffer  
RJHayes  
JRulifson  
GEPake  
DHSteininger  
BSutherland  
WMenetrey  
GRWhite