



# Apple Lisa Computer Commentary

## Larry Tesler • 28 November 2000



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### **Tales from Tessler: History of the Lisa Computer**

Larry Tesler, former Xerox PARC researcher and Apple chief scientist, explains the impact of the Lisa, a computer ahead of its time.

By Larry Tesler, CEO Stagecast

Apple introduced the revolutionary Lisa computer in 1983, but only about 30,000 were sold. The product was overpriced and slow. It also entered the market on the heels of the popular Lotus 1-2-3 spreadsheet, which established the IBM PC as the standard in business. But this didn't stop the Lisa from pointing the way to the future of personal computing.

### **Why was the Lisa slow?**

Because it didn't have enough power to run the demanding graphical user interface. Here's how it compares to my G4 Cube:

	<b>Lisa 1</b>	<b>PowerMac G4 Cube</b>
<b>Processor</b>	5 MHz 16/32 bit	450 MHz 32 bit
<b>Maximum Memory</b>	2MB	1,500MB
<b>Standard disk</b>	0.8MB Floppy	20,000MB Ultra ATA

Even that low-power setup was too expensive to compete with an MS-DOS PC, which had a quarter of the memory and an 8-bit microprocessor.

## **What Survives from Apple's Lisa?**

Although Lisa came and went almost in the blink of an eye, many of its features are still found in today's Windows PCs and Macintosh computers.

### **Lisa's Pioneering Features**

- A menu bar with pull-down menus and identified keyboard shortcuts
- File menu commands named New, Open, Close, Save, Save as, and Print
- Windows and icons moved by pointing, clicking, and dragging
- Dialog boxes with radio buttons, check boxes, and OK/Cancel buttons
- Alert boxes to provide warnings and explain errors

Lisa innovations incorporated into the 1984 Macintosh included those listed above, plus:

### **Hardware**

- The one-button mouse
- The ImageWriter WYSIWYG ("what you see is what you get") printer

### **User interface**

- A menu bar spanning the top of the screen
- Windows that visually zoom when they open and close
- The appearance and layout of scroll bars and the window resize corner
- Rounded-corner buttons in dialogs

### **Application software**

- LisaProject, the first such application that allowed the user to drag task boxes to change the schedule (became MacProject)
- LisaDraw (became MacDraw)
- LisaWrite (word-processing)
- LisaCalc (a spreadsheet)
- LisaGraph (a charting program)
- LisaTerminal (a Telnet-like program)
- LisaList (a simple data base program)
- The Lisa Desktop Manager influenced the design of the Macintosh Finder.
- Lisa's printing software heavily influenced the original Mac equivalent.

## How PARC Influenced the Lisa

Lisa was not the beginning of this graphical revolution. Many of the ideas in the Lisa were inspired by previous work at the Xerox Palo Alto Research Center (PARC).

PARC's innovations

- The Ethernet
- The laser printer
- The personal computer with a mouse and bit-mapped (pixel-based) graphics
- WYSIWYG editing of memos, email, illustrations, and animations
- Menu commands named Cut, Copy, and Paste
- Overlapped windows with scroll bars
- Multi-frame browsing windows

Some of the PARC work was first commercialized in the Xerox Star, a 1981 client-server system that anticipated the Sun workstation. Star workstations featured a two-button mouse. The user interface introduced many innovations, including desktop icons and property dialogs.

The Star directly influenced Microsoft Windows. As in Windows 1.0, windows on the Star were tiled instead of overlapped. Although the Star appeared too late to have much influence on the Lisa, its use of desktop icons put pressure on Apple to adopt an iconic desktop. The Lisa team had prototyped this desktop but had not planned to ship it.

Much of PARC's work was in turn inspired by prior research, especially that of Doug Engelbart, whose group at SRI developed the mouse, hypertext linking, shared conferencing, outline editors, and much more.

## Learn More About Apple's Lisa

Download Lisa documentation and Lisa Software. The software won't do you much good unless you have Lisa hardware. But there is a longstanding project to develop a Lisa emulator.

More Lisa links

- The Computer Museum History Center
- The Museum of Dead, Gone, and Obsolete Computers
- Unofficial Apple History

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