Departments

Commentary

LOOKING AT "LOOK AND FEEL"

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Imagine how difficult it would be to drive if the foot pedals on a Ford were arranged differently from the foot pedals on a Honda, or if General Motors used a stick for steering instead of a wheel. What if one of the early car manufacturers had been granted a copyright on the look or concept of a speedometer, effectively barring other companies from using speedometers for the lifetime of the speedometer's "author," plus 50 years?

This may sound ridiculous, but in a few years, it may accurately reflect the state of the computer software industry. The reason is that several major companies, including Lotus Development Corp. and Apple Computer Corp., have sued their competitors for copyright infringement, claiming that the competing programs have copied the "look and feel" of the original ones. The resolution of these cases, now pending, will have dramatic effects not only on programmers and software companies, but on everyone who uses computers.

The 1987 Lotus suit is against two companies, Mosaic Software, which developed a spreadsheet system called *Twin*, and Paperback Software, which developed a spreadsheet program called *VP-Planner.* Both of these programs are strikingly similar to Lotus's well-known *1-2-3* spreadsheet.

The 1988 Apple suit is against Microsoft and Hewlett-Packard, saying that Microsoft's *Windows* product and HP's *New Wave* are too similar to the Macintosh.

Neither Apple nor Lotus is alleging that the defendants in the cases have copied their programs directly. The companies only claim that their products' look and feel have been copied—"look" being the way their programs appear on the computer's screen, and "feel" being the way that a user commands the computer to do different things.

Anybody who has ever used a Mac knows that it's very easy to use—all due to the Mac's mouse and the graphical display, which let the user easily select choices from pull-down menus, move information around with scroll bars, and cut and paste text and graphics at will. Nearly every program that runs on a Mac uses this same interface, which almost eliminates the time required to learn a new system. Indeed, the Mac's claim to fame is that most people who use it never even bother reading the instruction manuals.

The same could be said of a new car. How many people read the owner's manual of their new Ford or Chrysler before they take it for a test drive? How many people *ever* read the manuals? Standardization and the adoption of common man-machine interfaces have made possible the transportation revolution of the automobile.

The Lotus claim is just as bold: Lotus says that its competitors have copied the command language of *1-2-3*, as well as the menus and screen displays. It's as if Kernighan and Ritchie had claimed that they owned the copyright on the C programming language, and started to sue every company that wrote a compiler for it.

It's a sad commentary on American business when companies find it easier to litigate their competitors out of business than to develop superior products themselves. It also represents an amazing amount of *chutzpah* on the part of Lotus and Apple, since both companies are arguing for copyright protection of programs that were themselves modeled on competitors' works. (In particular, much of the Mac interface was modeled on the Xerox STAR workstation, while Lotus *1-2-3* was based upon an early spreadsheet program called *VisiCalc.*)

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These lawsuits are happening at a crucial time in the history of the software industry. After decades of development, companies are finally writing programs that have similar and easy-to-use interface standards. Such standards mean that users can easily move from one vendor's program to another, instead of being locked into one system because they're familiar with a proprietary command language and all of their data files are in an incompatible file-format. Standards beget competition, and competition brings innovation, lower prices, and, yes, even larger profits for companies. But standard software interfaces are exactly what these lawsuits will stamp out if they're successful.

Gerry Sussman, a professor of electrical engineering and computer science at MIT, calls look-and-feel copyrights "a dumb idea:"

"The intent of copyright is to increase diversity," Dr. Sussman says. Yet the effect of the lawsuits will be to discourage diversity by pulling similar products from the marketplace. Sussman concludes that the companies "are using the copyright laws in a way that's destructive to the purposes of copyright."

As a programmer myself, I was recently bitten by another kind of look-and-feel bugaboo: In an application that I'm developing for a company in Cambridge, I was told to be careful to make sure that my program didn't look too much like a program sold by one of our competitors—a program, incidentally, that I'd never seen. The reason: If that other company thought that our program was too similar to theirs, they would sue us for look-and-feel infringement.

If look and feel become firmly entrenched, whenever programmers anywhere sit down at a keyboard, they'll risk violating federal copyright law in the event that they happen to invent a screen display that looks substantially similar to something that's been done before.

Recently, a group of computer professionals calling themselves the League for Programming Freedom has been trying to alert the public to the danger of these lawsuits. "It's unreasonable to give a company a lock-up on an idea that any reasonable programmer would come up with if he looked at the problem long enough," says Len Tower, Jr., a member of the League.

Sadly, though, it's in the courts, rather than in the court of public opinion, where these issues will be resolved. That presents at least two problems:

First, judges and lawyers haven't been trained to deal with the highly technical issues that arise in these cases. In one look-and-feel lawsuit already resolved (*Broderbund Software, Inc. v. Unison World, Inc.*), the court ruled in favor of the plaintiff, because both programs had contained the phrase "select a font." The court said that the defendant's program could have used any number of other phrases to convey the same information, such as "choose a typeface" or "indicate your type style preference."

Select a font! It's the phrase that I would have used. And I would have been guilty of copyright violation.

But the real problem is that copyright laws are supposed to protect the expression of ideas, not the ideas themselves. Programs are really a lot more like recipes than novels, movies, and works of music; trying to protect them with the same tools is bound to create problems.

Imagine a restaurant that tried to protect its *torte à la mode* by litigation—it would be laughed out of business. A far more honorable approach would be to make the best *torte* in the city and let the customers decide. Why are Lotus and Apple afraid to compete on the strengths of their products alone?

For further information, I recommend "Why the Look and Feel of Software User Interfaces Should not be Protected by Copyright Law," Pamela Samuelson, *Communications of the ACM*, May 1989, Volume 32, Number 5, page 563.

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