THE ECONOMY

PATENTS CASES

Software Makers Row Over Patents

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BOSTON

IN July 1981, Mitchell Kapor and Jonathan Sachs started working in a Cambridge, Mass., basement on a program designed to make computers easy for businessmen to use, an electronic spreadsheet.

Eighteen months later, financial planners were buying IBM's new personal computer just to run the program of Mr. Kapor and Mr. Sachs, and the fledgling Lotus Development Corporation was propelled from a start-up company to a million dollar, then a hundred million dollar corporation. Last year, the program, with the unassuming name of 1-2-3, accounted for more than half of Lotus's $470 million in sales.

Then came Patent 4,398,249.

Lotus's program had been on the market for just nine months when the US Patent Office awarded Patent 4,398,249 to Rene Pardo and Remy Landau, two Canadian inventors, for a process that converts mathematical equations typed by nonprogrammers – like those found in spreadsheets – into a form that a computer can easily evaulate. They had applied for their patent in August 1970.

Earlier this year, the New York-based REFAC Technology Development Corporation, the exclusive licensee of the Pardo and Landau patent, filed suit against Lotus and several other spreadsheet vendors for patent infringement. "We are asking what is considered a reasonable royalty – 5 percent on the net selling price," says REFAC's chairman Eugene Lang, who estimates that the total royalties his company is entitled to might range from $25 million to $250 million.

Although some industry analysts question the strength of REFAC's claim, the lawsuit highlights the fact that patents on pieces of computer programs "have become an enormous problem for our industry," says Kenneth Wasch, executive director of the Software Publisher's Association. A flood of newly issued patents has raised the concern that many programs on the market may soon be found to be in violation of patents held by others. The impact of these patents and others, some say, may stifle innovation and put an end to the free-wheeling creativity that has been a hallmark of the nation's $2.6 billion software industry.

The key players, says Mr. Wasch, seem to be "people from outside our industry who just buy up a bunch of patents and then come into our industry filing lawsuits. . . . They are just buying patents to see if they can shake some money free."

But increasingly it is mainstream software companies that are patenting what they feel are unique aspects of their programs. In April, for example, Quarterdeck Office Systems in Santa Monica, Calif., received a patent for a technique that allows multiple programs to run on a single computer at the same time and display information on different parts of the computer's screen, called "windows." Until the awarding of the patent, many programmers had thought windowing techniques to be widely used throughout the computer industry and not a technology subject to being patented.

"The way the patent system works is that you go to the patent office with an application [in which] you swear that you were the first and true inventor of whatever patent you claim," says Pamela Samuelson, a visiting professor at Emory Law School and an expert on software copyright and patent law. The problem, says Dr. Samuelson and others, is that the Patent Office has a difficult time determining if there were any previous examples of the inventor's claims.

"The individual routines that programmers may have used for many, many years and are standard in their art are not necessarily published," agrees Gary Shaw, an examiner in the US Patent Office.

"For a number of years the Patent Office resisted issuing patents on computer software," says Mr. Shaw. "It took a series of court decisions and rulings, including the Supreme Court, to clarify that aspect of the law."

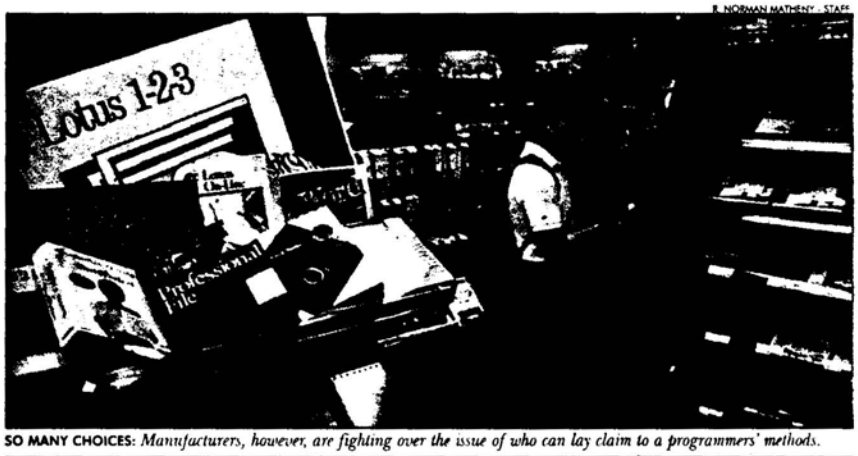
But since 1982, he adds, patents have been granted on all kinds of programs except explicit "mathematical functions, methods of calculation, and abstract intellectual concepts."

Unlike fields like chemistry and physics, where even relatively simple advancements are published in a multiplicity of academic journals, most software advancements are incorporated into programs but generally kept secret. Faced with the inability of determining which patent applications are already in widespread use, which are obvious, and which are truly innovative, experts say, the Patent Office seems to be patenting everything.

As a result, "if you just do normal, good engineering, you can ship a product, be successful, and afterward find out that somebody applied for a patent that was issued after you shipped," says Daniel Bricklin, one of the co-inventors of VisiCalc, the first electronic-spreadsheet program for a personal computer.

"The structure of this industry is such that we cannot tolerate 100 people asking for 5 percent of your revenues," Mr. Bricklin adds.

Companies like Lotus, Wordperfect, and Microsoft are actively pursuing numerous patents of their own with the intention of cross-licensing them to other companies – so that they can use other companies' patents for free. There is even talk of an industry-wide cross-licensing trust.



R. NORMAN MATHENY - STAFF

SO MANY CHOICES: *Manufacturers, however, are fighting over the issue of who can lay claim to a programmers' methods.*

ATTORNEY WELCOMES PATENTS

BOSTON

■ An attorney involved in the actual obtaining of software patents claims that patents are a logical next step for the software industry.

Patents on basic software concepts are really no different then basic patents on recombinant DNA technology or xerography, says Gary Hecker, a software-patent lawyer in California. Indeed, patents are "one of the best mechanisms for small entrepreneurs to protect themselves against larger and more predatory companies. . . . It is something that in the long run a small company can get tremendous mileage and value for very little in the way of investment."

– S. L. G.

Innovation . . . or infringement?

WHEN does one program look and operate so much like another one that it should be considered a copy? Does a copyright allow the owner of a computer program to prevent other companies from marketing programs that can be used the same way by computer users?

These questions are at the heart of a series of lawsuits now being heard in federal courts. In one high-profile case, Apple Computer Corporation has sued Microsoft and Hewlett-Packard corporations for copyright infringement, claiming that Microsoft's Windows program and HP's New Wave software are substantially similar to the graphical operating system of Apple's Macintosh computer.

In an another pair of suits, Cambridge-based Lotus Development Corporation has attacked Mosaic Software and Paperback Software, claiming that spreadsheet programs by those two companies are so similar to Lotus's award-winning 1-2-3 program that the programs are, in fact, copies – even though they were written by different people. "We allege that they set out to copy virtually every aspect of the interface of 1-2-3 and they did it," says Tom Lemberg, vice president and general counsel of Lotus.

The user interface is the part of a computer program that controls the way the computer interacts with its user. VP-Planner and Twin are so similar to 1-2-3, Mr. Lemberg says, that an experienced 1-2-3 user can use the programs without ever reading their instruction manuals.

"The name Twin was obviously chosen with a purpose," says Lemberg. "Twin of what?"

A computer program is a series of instructions that a computer follows to accomplish a desired result, like a recipe that a baker follows to make a cake. Before the Lotus and Apple lawsuits, it was widely assumed that companies could write and market their versions of competitor's programs, as long as they didn't copy any of the steps that they were trying to emulate.

Apple's and Lotus's suits are similar to a car manufacturer claiming it has copyright on the concept of a steering wheel or a particular gear-shifting pattern, says Richard Stallman, president of the League for Programming Freedom.

But Lotus's Lemberg disagrees. "The creation of 1-2-3 was a highly creative act, and the thing has been very successful. If you allow people to just come by and copy that work, what you are doing is allowing them to take a free ride on our company's creation. The act of doing that discourages innovation by allowing others to exploit it for free."

Most of the rulings in the Apple case have concerned whether a 1985 contract between Apple also covers the program that Apple alleges is in violation of the Macintosh copyrights. The Lotus lawsuits are being tried this fall in federal court in Cambridge, Mass.

– S. L. G.