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A New Idea In Software Protection

A 'Manifesto' calls for a unique law that's neither copyright nor patent.

By Victoria Slind-Flor

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COMPUTER SOFTWARE is a \$13 billion business worldwide, but it could be worth twice that much if unauthorized copying were stopped, says Microsoft corporate attorney James H. Lowe. The big problem -- one that has locked giants such as Microsoft, Apple, Lotus and Borland in gigantic battles -- is determining how best to use the law to protect this valuable commodity.

That's why the massive "Manifesto Concerning the Legal Protection of Computer Programs" has been so eagerly awaited. Its authors -- two legal academics and two technologists on the cutting edge of software innovation -- say, in 123 pages printed in the December 1994 Columbia Law Review, that they've got an answer, and the answer is neither copyright nor patent law, but something new.

They are by no means the first to toy with developing a new legal protection scheme unique to software. Their paper lists at least 10 scholarly articles that have looked at the issue since 1970. In 1978, the World Intellectual Property Organization came up with an idea for sui generis software protection. In 1986, the U.S. Congress' Office of Technology Assessment predicted that copyright law eventually would prove inadequate for software.

But many scholars who have seen advance copies of the manifesto say the authors have produced a groundbreaking effort.

In commentary on the manifesto that he provided to the Columbia Law Review, Stanford University copyright law Prof. Paul Goldstein praises the document for providing a "pathbreaking recharacterization of software technologies in terms that can bridge the worlds of software design and the design of public policy."

The four authors -- Mitchell Kapor, founder of Cambridge, Mass.' Lotus Development Corp.; Massachusetts

Institute of Technology Prof. Randall Davis; and two law school professors, Pamela Samuelson of the University of Pittsburgh and Vanderbilt University's Jerome Reichman -- have spent four years coming up with some answers.

W School which have funded their collaboration.

A key conclusion? A new metaphor is needed because software has been viewed wrongly in the past.

Some scholars and intellectual property practitioners maintain that software is just like any other invention and therefore that patent law does and should apply. Others say that software is as much an artistic creation as literature or music and so falls into the realm of copyright law.

A Real Difference

But the manifesto's authors insist that proponents of both positions fail to understand there is something fundamentally different about software.

"It has taken us a long time to pick out its essential characteristics," says Professor Samuelson.

What makes it so different, she says, is its "behavior," or its

ability to direct a computer to perform a task.

"I think that people have just never thought about whether behavior is valuable," she says.

What's tricky about behavior is that makers of one computer program can design it to behave much like another without getting inside the program to copy its protected code. Two entirely different programs can, for example,

cause a garbage can-like symbol to appear on a screen to designate the destination for discarded files.

The authors call this ease of duplication "trivial acquisition of functional equivalence" and warn that if it remains unchecked, developers will lose the incentive to create new programs.

But the manifesto is equally concerned that too broad a protection could keep potential competitors locked out of the marketplace. Consumers would lose under this scheme too; it would be impossible to develop software that extends or enhances existing products.

Instead, it proposes a system of automatic short-term protection, to be followed by a longer term if the software inventor goes through a registration procedure.

Just Like Chips

For a model, they've looked to the Semiconductor Chip Production Act of 1984

because, they say, software is much like a chip. Both require time and money to develop, but imitators can get a clone

to market easily without incurring the originators' research and development costs.

Under the chip protection act, a chip design is given automatic anti-cloning protection for two years from the date of its first commercial distribution. Registration with the U.S. Copyright Office can extend that to 10 years. The manifesto proposes a similar law to protect software through an initial automatic protection period. If the owner of the design wants longer-lasting protection, the manifesto suggests an "automatic royalty-bearing license" on standard terms.

Boston-based software lawyer Thomas M.S. Hemmes of Foley, Hoag & Eliot, who reviewed an advance copy of the manifesto, says it provides "valuable insight that hasn't appeared in the literature in quite this vivid a manner before."

But several patent purists who have seen the manifesto remain unconvinced that the patent system cannot protect software. Herbert F. Schwartz of New York's Fish & Neave says the authors overplay the incremental nature of technological advances in the field.

"I think they are saying innovation in the software is more incremental than elsewhere

I query that," he says.

Peter K. Tryzna, a patent lawyer at Chicago's Keck, Mahin & Cate, says an en banc ruling from the U.S. Court of Appeals for the Federal Circuit in a recent software case makes it clear that patent law provides powerful protection. In re Alappat, 22 F.3d 1526 (Fed. Cir. 1994)

"In Alappat, the court found an invention that could be done either in hardware or software was patentable. It's the same invention," says Mr. Tryzna.

The manifesto, he says, proposes "one set of legal protections for doing it the software way and another set for doing it the hard-wired way. But dividing software from hardware does not make electrical engineering or scientific sense."

Professor Samuelson's longtime nemesis, IBM Asst. General Counsel Anthony L. Clapes, a copyright advocate, is also unconvinced.

"Software doesn't 'behave.' You can have a diskette sitting there on your desk and watch it all day, and you won't see it 'behave.'" he

says. "It's writing."

Whatever the merits, quick change in software law is unlikely, says Michael J. Remington of Washington's Leonard, Ralston, Stanton, Remington & Dank, former chief counsel to the House of Representatives' intellectual property subcommittee.

Educating Congress on software technology and law takes a long time, he says -- particularly one with so many new members. "Not only do you have esoteric legal issues -- which is what intellectual property law is all about -- but the legislator has to understand difficult issues of technology such as what is software, who is the author, how is it written, how long is its life and what are the effects of piracy.'"

Manifesto Destiny: The Gange of Four

FOOTNOTE 3 gives them away: Despite their intellectual heft, the manifesto's four authors are a lot more than eggheads locked away in an ivorytower of their own devising. After all, how many other scholarly papers about law and science quote the Grateful Dead? But there it is. The two law professors and two technologists, who spent four years developing the manifesto, use lyrics from the rock band's 1970 song "Truckin'" to describe their experience: "What a long, strange trip it's been," the note reports. Those on the trip are an otherwise illustrious crew.

Chief author Prof. Pamela Samuelson and her collaborator, Prof. Jerome Reichman, have gained wide recognition in legal circles for more than scholarly papers. Both have contributed to amicus briefs filed on behalf of defendants in software infringement cases. They joined a number of other copyright professors in a brief written in support of Borland InterNational* in the eagerly awaited case now under advisement before the 1st U.S.Circuit Court of Appeals, Lotus v. Borland, 93-2214. They also joined in on the side of Accolade Inc. in Sega v. Accolade, 977 F.2d 1510 (9th Cir. 1992).

In another footnote to the manifesto, they acknowledge that they have sometimes been characterized as "'antiprotectionists' (or worse)" by those who think the existing legal protection scheme is adequate for software.

Professor Samuelson, who teaches law at the University of Pittsburgh, also writes frequently on legal subjects for various computer industry publications.

Professor Reichman teaches at Vanderbilt University. He is the author of a companion piece to the manifesto published in the same issue of the Columbia Law Review, "Legal Hybrids Between the Patent and Copyright Paradigms."

Mitchell Kapor is best-known as the founder of Cambridge, Mass.' Lotus Development Corp., where he developed the popular Lotus 1-2-3 spreadsheet program. After Mr. Kapor left Lotus, he founded the Electronic Frontier Foundation, a high-profile, Washington, D.C.-based communications advocacy group that has given the Clinton administration much input on the architecture of the National* information infrastructure. He now serves as chairman of the organization's board of directors.

Mr. Kapor has testified before Congress about his concerns regarding the present over- or under-protection of software.

At the Massachusetts Institute of Technology, Randall Davis heads the Artificial Intelligence Lab and is a professor of computer science.

Professor Davis became well-known to the legal world when he was appointed technical expert to both the trial and appeals courts in the software infringement case today regarded as seminal, Computer Associates v. Altai, 982 F.2d 693 (2d Cir. 1992). Both courts relied heavily on papers Professor Davis wrote that outlined the issues and established a series of tests for determining degrees of infringement. Other courts have deferred repeatedly to the Computer Associates ruling.

Professor Davis also has addressed the World Intellectual Property Organization's Worldwide Symposium on the Intellectual Property Aspects of Artificial Intelligence.

--Victoria Slind-Flor

Included graphic: Photo of Prof. Paul Goldstein, describing the manifesto as a pathbreaking work. Photo of Herbert Schwartz.

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