BY PAMELA SAMUELSON

HACKING INTELLECTUAL PROPERTY LAW

Considering how intellectual property law has evolved in response to advances in computing technologies.

2008 marks not only this magazine's 50th anniversary, but also my 20th year as a contributor to CACM. I was initially drawn into the ACM community to decrypt the legal theories underlying the then highly controversial software copyright "look and feel" lawsuits, which were creative, if ultimately unsuccessful, attempts to hack intellectual property law to limit competitive imitations. Apple Computer brought one such suit against Microsoft Corp., and Lotus Development Corp. another against Paperback Software.

Back then, things didn't look so good for Microsoft or Paperback because a widely cited appellate court decision from 1986, *Whelan Associates v. Jaslow Dental Labs*, had opined that computer programs should enjoy a broad scope of copyright protection, including for program structure, sequence, and organization ("SSO") and for the look and feel of their user interfaces and seemingly for program behavior.

Things looked even worse for Microsoft in 1990 after Paperback lost at the trial court level and ran out

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of money before it could pursue an appeal. The *Paperback* decision's endorsement of *Whelan* was not only another arrow in Apple's quiver, but it bolstered Lotus' confidence that it could win subsequent lawsuits, first, against Borland International and then perhaps against Microsoft. The Borland and Microsoft spreadsheet programs allowed users to execute macros built in Lotus 1-2-3, which necessarily involved reproducing the Lotus command hierarchy so successfully challenged in *Paperback*.

1992 was a turning point in software copyright law. First, *Computer Associates v. Altai* discredited *Whelan* and rejected its analysis, holding that even if interface specifications were program "SSO," copyright did not protect them because of their importance to achieving interoperability. Second, *Sega Enterprises v. Accolade* held that making copies of program code for a legitimate purpose such as getting access to interface information in order to make a compatible program was a fair and non-infringing use of the copyrighted code. Third, a judge rejected Apple's *Whelan*-inspired theory that the look and feel of Microsoft's graphical user interface was too similar to that of Apple's Macintosh interface.

Although Lotus initially won an important round in its look and feel lawsuit against Borland in 1992, three years later an appellate court rejected Lotus's look and feel and "SSO" claims against Borland. Although Lotus appealed further to the U.S. Supreme Court, it could not persuade the Court to reinstate its victory, and finally *Whelan* lost its potency.

In retrospect, one can discern that over the course of a decade, judges managed to hack new legal doctrines out of the policy ether so that copyright law could be applied to computer programs in a competitively balanced way. Contrary to the dire predictions of some who favored a *Whelan*-like approach, the software industry has flourished

without broad copyright protection.

Once *Altai* displaced *Whelan*, it became clear that copyright protected program code and expressive aspects of screen displays, but not much else. This was because *Altai* directed that functional design elements of programs had to be "filtered out" before assessing whether infringement had occurred.

The increasing "thinness" of program copyrights may have catalyzed a concomitant boom in patent applications for software innovations starting in the mid-1990s. Unfortunately, many software patents are of questionable validity owing in part to inadequacies in the patent office's prior art databases and the low standards (until very recently) for judging the nonobviousness of claimed inventions.

Hence, courts have once again been called upon to hack intellectual property law to make it appropriately responsive to the needs of the software industry, this time on the patent side. In the past few years, the U.S. Supreme Court has performed some impressive hacks. It rejected the Federal Circuit's inflexibly harsh standards for issuing injunctions in *eBay v. MercExchange*. Four members of the Court recognized that the Federal Circuit's approach had given patent trolls too much leverage over makers of complex systems technologies, such as software, only one small part of which might infringe a patent.

The Court also rejected the Federal Circuit's erroneously low standard for judging the nonobviousness of claimed inventions in the *KSR v. Teleflex* case. In addition, it agreed with Microsoft that shipping a master disk from the U.S. to an overseas destination should not give rise to damage awards in U.S. courts for acts performed abroad that would infringe if done in the U.S.

But the Court alone cannot achieve all of the needed patent reforms. Congress should pass legislation to create a new post-grant review procedure to

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provide a lower-cost way to challenge the validity of questionable patents.

Whelan has not been the only "bad" IP hack in the past two decades. Another one was *MAI v. Peak*, which opined that temporary copies made in RAM when a computer is booted are reproductions of copyrighted software that can give rise to infringement claims if the machine was turned on by an unlicensed person.

But good hacks have been more common. *Religious Technology Center v. Netcom*, for instance, rejected an *MAI v. Peak*-like theory of liability against an Internet access provider. The judge decided that an Internet access provider should not be held liable for infringing copies of user postings on Usenet because copyright liability should be imposed only for volitional acts, not for automatic copies made by servers.

Another good hack was the Supreme Court's decision in *MGM v. Grokster*, which retained the *Sony* safe harbor for technologies having substantial non-infringing uses and held that peer-to-peer file-sharing firms should only be liable for infringement if they have induced users to infringe.

There is no way to foretell hacking of intellectual property law will be necessary to further adapt it in response to advances in computing technologies. More innovation is surely on the way—along with more lawsuits. Thus, a third decade of "Legally Speaking" columns may still be needed to translate what these lawsuits will mean for CACM readers. **C**

ODE TO CODE

Much have I travell'd in the realms of code,
And many goodly programs have I seen.
I've voyaged far to conferences umpteen,
Attending to the wisdom there bestowed.

Yet as I've moved along the winding road
Of my career (a journey not serene),
Only one source of knowledge has there been
Of worth enough to prompt of me an ode.

Communications has for 50 years,
Been there to help each of us on our way,
By giving us the writings of our peers,
And telling us the things they had to say.
So as the start of its sixth decade nears
Please join me wishing it "Happy Birthday."

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