EXHIBIT W -1

Sun Microsystems, Inc. MS PAL 1-521 2550 Garcia Avenue Mountain View, CA 94043-1100 415 960-1300 FAX 415 336-0530

November 5, 1992



HAND DELIVER

Professor Barry E. Carter Georgetown University Law Center 600 New Jersey Ave., N.W. Washington, D.C. 20001

Dear Professor Carter:

Bob Loeffler of Morrison & Foerster suggested that I write to you in your capacity as an advisor to President-Elect Clinton's transition team.

Sun Microsystems is the world's leading supplier of high-performance computer workstations. According to Forbes Magazine, Sun is the nation's second leading exporting company -- preceded only by Boeing -- as measured by the percentage of its total revenues derived from export sales. We are also the nation's largest employer of Unix software engineers, and play a leading role in the computer industry advocacy group known as the American Committee for Interoperable Systems (ACIS), of which I am chairman.

Sun has strongly held views on the role intellectual property protection should play in promoting U.S. competitiveness in the global computer industry. In particular, Sun believes in a scope of protection for computer programs under copyright law which balances incentives for developers with the public interest in competitiveness, open systems and incremental innovation. Sun believes, as its fellow members of ACIS believe, that the over-protection of technology under intellectual property law may lead, in the words of a U.S. Court of Appeal, to "monopolistic stagnation" in the industry.

The Clinton administration will soon have responsibility for reassessing the intellectual property policies taken by the U.S. Government in multilateral negotiations such as NAFTA and the Uruguay round of GATT. I would appreciate an opportunity to discuss further with you the views of Sun and ACIS. As I happen to be in Washington on other business, I would like to take the opportunity of contacting you to arrange a brief introduction and meeting during my current stay. If this is not convenient, I can be reached upon my return to Mountain View on Monday at (415) 336-2482.

Professor Barry E. Carter November 5, 1992 Page Two

Enclosed for your reference is a fact sheet on ACIS, the ACIS Statement of Principles and a list of ACIS members.

Ingerely

Peter M.C. Choy

Deputy General Counsel

Enclosures

M/S PAL1-521 P.O. Box 391837 Mountain View, California 94039-1837 Phone: (415) 336-0289

FAX: (415) 336-0530

FACT SHEET AMERICAN COMMITTEE FOR INTEROPERABLE SYSTEMS (ACIS)

Organization:

ACIS is a voluntary organization of more than 20 corporations in the computer industry. Members include Amdahl Corporation; Bull H.N. Information Systems Inc.; NCR Corporation; Seagate Technology Corporation; Storage Technology Corporation; Sun Microsystems, Inc.; Unisys Corporation and Western Digital Corporation.

Purpose:

The organization supports policies and principles of intellectual property law that provide a balance between rewards for innovation and the belief that computer systems developed by different vendors must be able to communicate fully with each other. This ability to communicate is termed "interoperability," and involves the interchange of information that benefits all computer users.

Activities:

The first general membership meeting was Dec. 5, 1991. Already, the organization has filed amicus briefs in several high-profile court cases; commented to the House and Senate subcommittees with jurisdiction over intellectual property issues; and addressed the U.S. delegation to W.I.P.O. on the proposed protocol to the Berne Convention.

Panel of Academic Advisors

Howard Anawait, Professor of Law at the University of Santa Clara; Ralph Brown, Professor Emeritus of Yale Law School; Gideon Frieder, Dean, School of Engineering and Applied Science, The George Washington University; Allan Gottlieb, Professor of Computer Science and Director of the Ultracomputer Research Laboratory at New York University; Peter Jaszi, Professor of Law, Washington College of Law, American University; Gearold Johnson, Professor of Engineering, Colorado State University; Dennis Karjala, Professor of Law at Arizona State University; David Lange, Professor of Law at Duke University Law School; L. Ray Patterson, Professor of Law at the University of Georgia; Jerome Reichman, Professor of Law at Vanderbilt University; and Pamela Samuelson, Professor of Law at the University of Pittsburgh.

Contacts:

Chairman of ACIS is Peter M.C. Choy, Deputy General Counsel, Sun Microsystems, Inc., (415) 336-2482. Other steering committee members include Greg Handschuh, Vice President for Legal Affairs, Amdahl Corporation, (408) 746-7034; Norton Cutler, Assistant Chief Counsel, NCR Corporation, (513) 445-2911; and W. Russell Wayman, Corporate Vice President and General Counsel, Storage Technology Corporation, (303) 673-4920.

STATEMENT OF PRINCIPLES

The American Committee for Interoperable Systems is a voluntary association of individuals and organizations concerned with the future of the computer and communications industry. ACIS was created by its members to support policies and principles of intellectual property law providing for a careful balance between the goals of strong protection and rewards for innovation, and the goals of interoperability, fair competition and open systems. Our paramount concern is that intellectual property protection not be improperly extended in scope or practice in ways which would impede further innovation and development in this critical industry.

ACIS recognizes and supports the role which standards bodies play in the movement toward open systems. We are aware, however, of the fact that proprietary systems continue to have an important and often dominant role in the information technology marketplace. ACIS members therefore support the following principles:

- Computer programs and other computer-related inventions comprise valuable intellectual property and deserve strong legal protection by means of intellectual property law. However, intellectual property law is not intended to protect investment as such. In order to qualify for protection, a computer program or computer-related invention must meet the requirements of one or more of the various forms of protection, failing which, no amount of money spent in its development should make it protectable.
- Both copyrights and patents offer viable forms of legal protection for software.

In the case of copyrights, however, protection should not be improperly extended to the computer processes implemented by the software apart from the expression contained in the software, and, where the process and the expression cannot be conceptually separated, even the expression should not be protected. Further, the scope of protection under copyright should be a function of the range of alternate expression available to the author of the software, consistent with sound programming practice.

In the case of patents, rigorous examination for novelty and non-obviousness, based on the best available prior art, is necessary to ensure that such patents are not improperly granted.

- Copyright law is not a trade secret law, a law to protect inventions or a general misappropriation law.
 It does not restrict the ability of others to perceive, view, observe, study, and analyze distributed copies of computer programs, nor does it restrict the ability of others to reproduce all or part of a lawfully-obtained program as a step in the development of competing products that are not substantially similar in terms of protected expression.
- The rules or specifications according to which data must be organized in order to communicate with another program or computer, i.e., interfaces and access protocols, are not protectable expression under copyright law.
- So long as the expression of the author is protected, nothing in copyright law should prevent or discourage the development of interoperable (competing or attaching) products or systems. On the contrary, copyright law should promote innovation and competition in furtherance of consumer welfare.

ACIS MEMBERS

Advanced Micro Devices, Inc. Amdahl Corporation Bull HN Information Systems, Inc. Chips and Technologies, Inc. Clearpoint Research Corporation Color Dreams, Inc. Comdisco, Inc. Emulex Corporation Forecross Corporation The Fortel Group Fujitsu Systems Business of America, Inc. Informix Corporation Intelext Systems, Inc. Johnson-Laird, Inc. Kapor Enterprises, Inc. Landmark Systems Corporation NCR Corporation Octel Communications Corporation Oracle Corporation Phoenix Technologies, Ltd. Plimoth Research Inc. Seagate Technology, Inc. Software Association of Oregon1/ Software Entrepreneurs Forum2/ Storage Technology Corporation Sun Microsystems, Inc. Systems Center, Inc. 3Com Corporation Unisys Corporation Western Digital Corporation Zenith Data Systems Corporation

^{1/} The Software Association of Oregon consists of 430 members; the majority (73%) are software development companies and companies in associated industries. The remaining members are professionals with interests in software development.

^{2/} The Software Entrepreneurs Forum consists of over 1,000 software entrepreneurs and developers.

EXHIBIT X





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- Google Launches Patent Attack On Apple In A Disappointing First For The Company
- Alternative View: Will Google's Prior Art Finder Become An 'Infringement Finder' For Trolls?
- · Seven Reasons Why Google Is Making A Mistake In Filtering Searches Based On DMCA Notices
- Google's App Crackdown Results In Indie Developer Smackdown

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Ima Fish (profile), May 23rd, 2012 @ 11:13am

insightful funny report

Wow. F'n wow.

[reply to this | link to this | view in thread]

2. Anonymous Coward, May 23rd, 2012 @ 11:13am

insightful funny report

"All that's left in this phase of the case [if] for the judge to make a determination over the copyright issue'

*is?

Google outfringing again

[reply to this | link to this | view in thread]

Anonymous Coward, May 23rd, 2012 @ 11:13am

insightful funny report

I smell dead dinosaurs again.

[reply to this | link to this | view in thread]

4. Lawyer Fail.







Baldaur Regis (profile), May 23rd, 2012 @ 11:15am

Oracle should have picked East Texas for the venue.

[reply to this | link to this | view in thread]

Saying You Can't Compete Period

Perhaps It's Not The Entertainment Industry's Business Model That's Outdated

read all x



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Techdirt Insider Chat

Dark Helmet: So how's THAT for an answer? :) Mike Masnick: but *normally* we use some

data from chartbeat to determine which stories are getting the most attention (combination of both traffic and links).

we used to use to use some other company whose name i'm forgetting, but they got bought and shut down their service, so we more or less hacked together our own on top of chartbeat

Dark Helmet: It's actually just me picking stuff I like...

xenomancer: that explains it

John Fenderson: You know, a DHRank would

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http://www.techdirt.com/articles/20120523/11050519050/boom-jury-says-no-patent-infringement-google-oracle-case.shtml[8/24/2012 11:15:55 AM]

Anonymous Coward, May 23rd, 2012 @ 11:48am

Only if I get to pick where to strike him. Surgery may be involved.

[reply to this | link to this | view in thread]

MrWilson, May 23rd, 2012 @ 11:53am

insightful funny

Insert obvious troll FUD comment here including terms like "Big Search" and implying that Google has gotten away with "theft."

[reply to this | link to this | view in thread]

13. Re:





Ruud (profile), May 23rd, 2012 @ 12:08pm

Patent and copyright reform? Think of those poor lawyers losing their jobs.

[reply to this | link to this | view in thread]

14. Re:



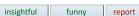


Baldaur Regis (profile), May 23rd, 2012 @ 12:24pm

I miss boB, too.

[reply to this | link to this | view in thread]

15. **Re:**





DannyB (profile), May 23rd, 2012 @ 12:26pm

Patent and Copyright may not be working the way they were originally intended

But they are working exactly as intended by current four* branches of government.

* be sure to count lobbyists as a branch of government

[reply to this | link to this | view in thread]

Glen, May 23rd, 2012 @ 1:03pm

insightful funny report

Someone blame Google! QUICK!!!!

[reply to this | link to this | view in thread]

17. Re: Bonus





🗓 Jeremy, May 23rd, 2012 @ 1:36pm

I hope by random you mean one who spends time at muscle beach; and by back of the hand you mean closed fist.

/at \$73 million in salary per year, he can afford a new body

[reply to this | link to this | view in thread]

18. Re: Re: Bonus





The eejit (profile), May 23rd, 2012 @ 1:37pm

Well, it depends on when they patent "Punch somebody in the junk through your smartphone."

[reply to this | link to this | view in thread]

19. Re: API copyright, yes?





gorehound (profile), May 23rd, 2012 @ 2:16pm

Sounds great to me and I am a born and bred American at that just that our Government does not Represent its People at all but they do Represent their own wallet, their own power, and their own Party.

And they sure do not seem to be a friend to any Company who wants to innovate. The Patent System is a joke. All of us know that one for a fact. They do nothing to stop the assault of Patent Troll after Patent Troll. And they were willing to sell out Tech & The People with their SOPA/PIPAS Krap. I have really gotten to hate this Government so much and millions also do with me so I am not just some lone cookoo. I wish I did not feel this way as I love my Country but the Government certainly needs a real wake up call so yes......move the new Tech to Nations who want them and will not do to them what is done to them here and if Europe is the answer then let em go there and start their new life. And if Europe is not maybe another Nation would love to see them there.

[reply to this | link to this | view in thread]

20. Re:





TaCktiX (profile), May 23rd, 2012 @ 2:24pm

Stupid Google bringing up legitimate arguments about copyright and patent over-reach. It's all because they support the pirates, the counterfeiters, the terrorists, and every other ne'er-do-well on the planet. That and they had to have paid off the jury and the judge. Obviously the corruption is so deep that everyone here is brainwashed.

/unnecessary sarc

[reply to this | link to this | view in thread]

21. **Re:**





TaCktiX (profile), May 23rd, 2012 @ 2:24pm

Stupid Google bringing up legitimate arguments about copyright and patent over-reach. It's all because they support the pirates, the counterfeiters, the terrorists, and every other ne'er-do-well on the planet. That and they had to have paid off the jury and the judge. Obviously the corruption is so deep that everyone here is brainwashed.

/unnecessary sarc

[reply to this | link to this | view in thread]

22. New Doogle



Krish (profile), May 23rd, 2012 @ 2:25pm

I think this captures my feelings accurately:

http://t.co/LR7Xio1r

[reply to this | link to this | view in thread]

23. Don't mind me...

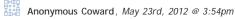


funny

report

insightful





...I'm just going to run around like a muppet with my hands flailing in the air for a little while.

Of course, in some ways the copyright issue is bigger, y/n? Not that I'm going to let that curtail my plushie flailings. Wheee!

[reply to this | link to this | view in thread]

24.

Mega1987 (profile), May 23rd, 2012 @ 6:13pm

insightful funny report

If that case got did not got the "no infringement" result, the computer science/information technologies thesis are dead from the beginning...

Fortunately it didn't....

[reply to this | link to this | view in thread]

25. Re-Examination and the Long-Established Limits of Copyright.





Andrew D. Todd, May 23rd, 2012 @ 6:55pm

The main point is that about ninety-percent of Oracle's patent claims were overturned in Re-Examination. It would have been more if the patents had been re-examined in the light of Mayo vs. Prometheus. The moral is that anyone

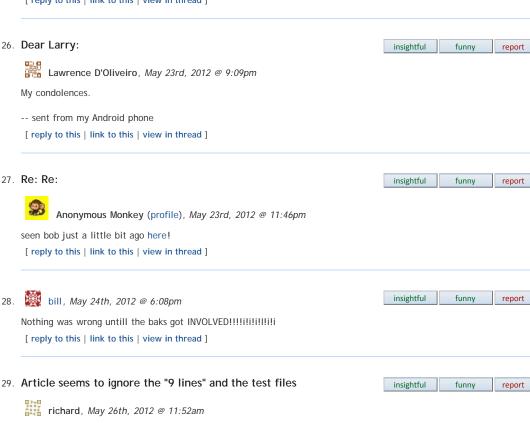
likely to be targeted by a patent troll should start filing Requests for Re-Examination against every patent they can think of. A patent troll should be afraid to attempt to blackmail you about a software patent, for fear that, even though you are in the software business, you might start in on their pharmaceutical patents.

As for the copyrights, for more than a hundred years, people have been trying, under various pretexts, to turn copyrights into super-patents, with longer duration, wider range of allowable subject matter, lack of examination requirements, etc. For more than a hundred years, the courts have been shooting these people down. Early cases tended to involve copyrighted books disclosing systems of book-keeping or accounting. Even if the trial judge was somehow induced to rule that API's were copyright-able, the Circuit Court of Appeals or the Supreme Court would correct the situation. The courts' consistent view is that if you want that kind of broad protection, you have to get a patent. The Copyright Office is simply not equipped to consider prior art or immediate obviousness, and doesn't even claim to be. The copyright claim was a desperation measure on Oracle's part.

David Boies is the kind of lawyer you hire if you are sitting on Death Row, and you have the money to pay for him. He is highly inventive, but in the end, he seems to lose all his cases, because "you can't make bricks without straw."

Mike Masnick has repeatedly emphasized the importance of execution, as distinct from invention. In a certain sense, prior art is a special case of this. There are incredibly vast piles of prior art, which went unused, for anything up to five hundred years, for want of execution, because they were trying to solve the wrong problem. Prior Art always surfaces, and given the standards of KSR vs. Teleflex, it can be linked together to form a defense against nearly any patent.

[reply to this | link to this | view in thread]



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The copyright question boiled down to _2_ things:

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1) Is the SSO of an API copyrightable? The judge will rule on this, and damages (if any) will likely depend on it.
2) Google did have "9 lines of code" -- which includes white space -- in one file, and a handful of test files, which might lead to (very modest) damages for copyright infringement. The jury said, "yes, they infringed", but deadlocked

on whether it was Fair Use. Google accordingly moved for mistrial on that phase.

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Michael Masnick

Jury: Google did not infringe on Oracle's patents. Complete loss for Oracle on the patent question.

http://www.techdirt.com/article...

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EXHIBIT Y

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IPDuck

The only blog devoted to both intellectual property law and the latest humor from the web.

Thursday, May 31, 2012

Our Founder



About Me



Mich ael Barcl ay

working for over 30 years as an intellectual property lawyer, I retired from Wilson Sonsini Goodrich & Rosati in January 2010. I'm now doing some volunteer work at the Electronic Frontier Foundation in San Francisco, Since I spend a fair amount of my day reading intellectual property blogs and humor web sites, I thought I would share the best of each of them on this blog.

View my complete profile

Interesting Legal Links (Alphabetical Order)

Above the Law

Daily Journal
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EDTX Federal Court
Practice

Electronic Frontier

Judge Alsup Rules that Java APIs Are Not Copyrightable

In the well-publicized *Oracle v. Google* case, Judge Alsup has ruled that Java APIs are not copyrightable, at least to the extent of Google's limited use of the APIs in Android. Judge Alsup relied on the *Lotus v. Borland* case I worked on many years ago, and other similar cases, to reject Oracle's copyright claim. Since a jury ruled that Google didn't infringe the two Oracle patents being tried, that leaves Oracle with a minimal damages claim for a few lines of code (not related to the API claim). Techdirt's writeup of this decision is here; EFF's post is here; Eric Goldman's post (by Tyler Ochoa) is here.

Some key points of Judge Alsup's ruling are as follows:

In view of the foregoing, this order concludes that our immediate case is controlled by these principles of copyright law:

- Under the merger doctrine, when there is only one (or only a few) ways to express something, then no one can claim ownership of such expression by copyright.
- Under the names doctrine, names and short phrases are not copyrightable.
- Under Section 102(b), copyright protection never extends to any idea, procedure, process, system, method of operation or concept regardless of its form. Functional elements essential for interoperability are not copyrightable.
- Under Feist, we should not yield to the temptation to find copyrightability merely to reward an investment made in a body of intellectual property.

As long as the specific code written to implement a method is different, anyone is free under the Copyright Act to write his or her own method to carry out exactly the same function or specification of any and all methods used in the Java API. Contrary to Oracle, copyright law does not confer ownership over any and all ways to implement a function or specification, no matter how creative the copyrighted implementation or specification may be. The Act confers ownership only over the specific way in which the author wrote out his version. Others are free to write their own implementation to accomplish the identical function, for, importantly, ideas, concepts and functions cannot be monopolized by copyright.

Much of Oracle's evidence at trial went to show that the design of methods in an API was a creative endeavor. Of course, that is true. Inventing a new method to deliver a new output can be creative,

Why a Duck?

The "IP" part of this blog's title is self-explanatory — the abbreviation for the shorthand term "intellectual property." But what to call the humor part of the name? It turns out that the duck is the funniest animal alive. A 2002 study confirms that jokes mentioning ducks are funnier than others.

If you think about it. that makes sense. Think of the funniest joke you know, and replace one of the characters with a duck. It instantly becomes even funnier. You might not even need the punchline. For example, which is funnier: "A priest, a rabbi, and a minister walk into a bar . . . ' -- OR --"A priest, a rabbi, and a duck walk into a bar . . . '

And needless to say, "Weird Al" Yankovic's "I Want a New Duck" is MUCH funnier than Huey Lewis' "I Want a New Drug."

Blog Archive

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 - **▶** July (7)
- ▶ June (11)

Foundation IP Law 360 (subscription) Law.com/The Recorder Patently-O Blog Peter Zura SCOTUSblog Techdirt Technology & Marketing Blog (Eric Goldman) The Trademark Blog U.S. Court of Appeals for the Federal Circuit U.S. Patent and Trademark Office Volokh Conspiracy

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even inventive, including the choices of inputs needed and outputs returned. The same is true for classes. But such inventions - at the concept and functionality level - are protectable only under the Patent Act. The Patent and Trademark Office examines such inventions for validity and if the patent is allowed, it lasts for twenty years. Based on a single implementation, Oracle would bypass this entire patent scheme and claim ownership over any and all ways to carry out methods for 95 years - without any vetting by the Copyright Office of the type required for patents. This order holds that, under the Copyright Act, no matter how creative or imaginative a Java method specification may be, the entire world is entitled to use the same method specification (inputs, outputs, parameters) so long as the line-by-line implementations are different. To repeat the Second Circuit's phrasing, "there might be a myriad of ways in which a programmer may . . . express the idea embodied in a given subroutine." Computer Associates, 982 F.2d at 708. The method specification is the idea. The method implementation is the expression. No one may monopolize the idea.

To carry out any given function, the method specification as set forth in the declaration *must be identical* under the Java rules (save only for the choices of argument names). Any other declaration would carry out some *other* function. The declaration requires precision. Significantly, when there is only one way to write something, the merger doctrine bars anyone from claiming exclusive copyright ownership of that expression. Therefore, there can be no copyright violation in using the identical declarations. Nor can there be any copyright violation due to the *name* given to the method (or to the arguments), for under the law, names and short phrases cannot be copyrighted.

In sum, Google and the public were and remain free to write their own implementations to carry out exactly the same functions of all methods in question, using exactly the same method specifications and names. Therefore, at the method level — the level where the heavy lifting is done — Google has violated no copyright, it being undisputed that Google's implementations are different.

Interoperability sheds further light on the character of the command structure as a system or method of operation. Surely, millions of lines of code had been written in Java before Android arrived. These programs necessarily used the java.package.Class.method() command format. These programs called on all or some of the specific 37 packages at issue and necessarily used the command structure of names at issue. Such code was owned by the developers themselves, not by Oracle. In order for at least some of this code to run on Android, Google was required to provide the same java.package.Class.method() command system using the same names with the same "taxonomy" and with the same functional specifications. Google replicated what was necessary to achieve a degree of interoperability — but no more, taking care, as said before, to provide its own implementations.

In closing, it is important to step back and take in the breadth of Oracle's claim. Of the 166 Java packages, 129 were not violated in any way. Of the 37 accused, 97 percent of the Android lines were

▼ May (5)

Judge Alsup Rules that Java APIs Are Not Copyright...

"The Pirate Bay Cries Foul Over Pirate Bay Copycat...

Darth Seder!

MAD Magazine Helpfully Explains Why "The Avengers"...

Phase One Verdict in Oracle v. Google, and It's

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My Amicus Briefs

The following are some amicus briefs I have authored or co-authored. Note that my involvement in these briefs ranges from principal author to co-author to editor.

In re Seagate
Technology, LLC, 497
F. 3d 1360 (Fed. Cir. 2007)

Viacom v. YouTube, S.D.N.Y. No. 07-Civ-

2103, 718 F. Supp. 2d 514 (S.D.N.Y. 2010)

UMG v. Veoh, Ninth Circuit No. 09-56777 (opinion issued under the name of UMG v. Shelter Capital Partners)

Microsoft v. i4i,

Supreme Court No. 10-290, Certiorari stage brief

Golan v. Holder,

Supreme Court No. 10-545, Certiorari stage brief

Sony BMG Music v. Tenenbaum, First Circuit Nos. 10-883, 10-1947, 10-2052

new from Google and the remaining three percent were freely replicable under the merger and names doctrines. Oracle must resort, therefore, to claiming that it owns, by copyright, the exclusive right to any and all possible implementations of the taxonomy-like command structure for the 166 packages and/or any $\operatorname{subpart}$ thereof — even though it copyrighted only one implementation. To accept Oracle's claim would be to allow anyone to copyright one version of code to carry out a system of commands and thereby bar all others from writing their own different versions to carry out all or part of the same commands. No holding has ever endorsed such a sweeping proposition. Posted by Michael Barclay at 4:42 PM >= Recommend this on Google Labels: Copyright No comments: Post a Comment Comment as: Select profile... Publish Preview

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Microsoft v. i4i,

Supreme Court No. 10-290, Merits stage brief

Viacom v. YouTube

(and *Premier League v. YouTube*), Second Circuit Nos. 10-3270, 10-3342

Golan v. Holder,

Supreme Court No. 10-545, Merits stage brief

$Akamai\ Tech., Inc.\ v.$

 $Limelight\ Networks,$

 ${\it Inc.},$ Federal Circuit

Nos. 2009-1372, -

1380, -1416, -1417, and

McKesson Tech. Inc. v.

Epic Sys. Corp., Federal

Circuit No. 2010-1291

$Brown mark\ Films,\ LLC$

v. Comedy Partners,

MTV Networks,

Paramount Pictures

Corp., South Park

Digital Studios, LLC,

and Viacom

International, Inc.,

Seventh Circuit No. 11-

2620

 ${\it Capitol\ Records, Inc.,}$

et al. v. Jammie

Thomas-Rasset, Eighth

Circuit Nos. 11-2820, 11-

2858

The Authors Guild v.

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Our Founder



About Me



Mich ael Barcl ay

working for over 30 years as an intellectual property lawyer, I retired from Wilson Sonsini Goodrich & Rosati in January 2010. I'm now doing some volunteer work at the Electronic Frontier Foundation in San Francisco, Since I spend a fair amount of my day reading intellectual property blogs and humor web sites, I thought I would share the best of each of them on this blog.

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Practice
Electronic Frontier

Monday, May 7, 2012

Phase One Verdict in Oracle v. Google, and It's a Mess

The *Oracle v. Google* case is being tried in San Francisco federal court. The jury came back this morning with a partial verdict on Oracle's copyright claim (phase one). Oracle claimed that Google infringed the APIs (Application Program Interfaces) in the Java language. The jury decided that Google infringed the "overall structure, sequence and organization" of the APIs, but did **not** reach a verdict of whether this is fair use or not. It is highly debatable whether API's are copyrightable at all -- the Judge will have to decide that -- and the jury's failure to decide fair use creates a real mess. Articles by Techdirt and Ars Technica describe the mess. Update: Here's EFF's post on the verdict.

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Why a Duck?

The "IP" part of this blog's title is self-explanatory — the abbreviation for the shorthand term "intellectual property." But what to call the humor part of the name? It turns out that the duck is the funniest animal alive. A 2002 study confirms that jokes mentioning ducks are funnier than others.

If you think about it. that makes sense. Think of the funniest joke you know, and replace one of the characters with a duck. It instantly becomes even funnier. You might not even need the punchline. For example, which is funnier: "A priest, a rabbi, and a minister walk into a bar . . . ' -- OR --"A priest, a rabbi, and a duck walk into a bar . . . '

And needless to say, "Weird Al" Yankovic's "I Want a New Duck" is MUCH funnier than Huey Lewis' "I Want a New Drug."

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My Amicus Briefs

The following are some amicus briefs I have authored or co-authored. Note that my involvement in these briefs ranges from principal author to co-author to editor.

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S.D.N.Y. No. 07-Civ-

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> tioner, v.

BORLAND INTERNATIONAL, INC., Respond-

ent.

No. 94-2003.

October Term, 1995.

Dec. 8, 1995.

On Writ Of Certiorari To The United States Court Of Appeals For The First Circuit

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RULE 29.6 STATEMENT

Respondent Borland International, Inc. has no parent corporation or subsidiaries that are not wholly owned, except for certain foreign subsidiaries in which a minimal amount of shares (fewer than 1%), which are not publicly traded, are held by foreign nationals in accordance with local law.

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*1 Borland International, Inc. ("Borland") respectfully seeks affirmance of the judgment of the United States Court of Appeals for the First Circuit in this case.

CONSTITUTIONAL PROVISIONS INVOLVED

Lotus Development Corporation ("Lotus") does not cite in full the applicable Constitutional provision involved. Brief for the Petitioner ("Lotus Br.") at 1, 20. Article 1, Section 8, Clause 8 of the U.S. Constitution provides (portions omitted by Lotus it-

alicized):

"Congress shall have the power ... To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

STATEMENT OF THE CASE

There is good reason why this computer software copyright case has generated such widespread attention among the computer industry, the academic community and the legal profession. In the usual software copyright case, the defendant is alleged to have copied either the text ("code") or structure of plaintiff's computer program, or the way the program looks on the computer screen when it is executing. No such copying occurred here. Lotus does not even allege any copying of its code, and the district court held that the programs at issue look different, a ruling Lotus did not attempt to appeal.

The sole basis for Lotus' claim is that Borland copied menus of command words that are displayed on the computer screen to permit the user to invoke the functionality of the program. Lotus does not allege that Borland copied the textual explanations of the command words-only the words themselves and their order. The words (such as "COPY" and "PRINT") in Lotus' menus are like the labels on switches and knobs. In number, arrangement and function, they are analogous to the switches and attendant labels that are arranged and grouped in the cockpit of a commercial jet aircraft. Indeed, the district court characterized Lotus' menu hierarchy as "the selection and arrangement of executable operations."

*2 Lotus' menu command hierarchy may well constitute patentable subject matter. But Lotus bases its claim on the law of copyright, not patent. Lotus' argument ignores the important policies and procedures of the patent law, reads important limiting language out of the copyright statute, and refuses even to acknowledge that its proposed extension of the scope of copyright must "ultimately serve the public good," as this Court has so often counseled. See,

e.g., Fogerty v. Fantasy, Inc., 114 S.Ct. 1023, 1029 (1994). The First Circuit Court of Appeals unanimously rejected Lotus' approach. Borland respectfully requests that this Court do so as well.

A. Development of 1-2-3

1. User Interface

The record in this case indicates that the code and some of the functionality of the 1-2-3 program were original to Lotus, but virtually every element of the program's user interface, including the command words and segments of the hierarchy, was present in products developed by other companies prior to 1-2-3. VisiCalc, the first commercial electronic spreadsheet, was described by the district court as "a revolutionary advance in the field of programming." Lotus Dev. Corp. v. Paperback Software Int'l, 740 F. Supp. 37, 65 (D.Mass.1990) ("Paperback"), Pet.App. 230a. [FN1] The extent to which Lotus appropriated aspects of VisiCalc was hotly contested in the Paperback case. See id. at 83, Pet.App. 265a. The district court conceded that Lotus used a number of elements from VisiCalc, including the spreadsheet metaphor and the designations of various keys to perform specific functions, see id. at 66, Pet.App. 231a-232a, but the court found each of these features uncopyrightable. The court concluded that the 1-2-3 menu structure *3" taken as a whole" was "original and non-obvious" and, hence, the 1-2-3 user interface was copyrightable. Id. at 68, Pet.App. 234a-235a.

FN1. Each of the four decisions of the District Court in Lotus Dev. Corp. v. Borland Int'l, Inc. relies upon Paperback. Those opinions are reported at 788 F. Supp. 78 (D.Mass.1992) ("Borland I"), 799 F. Supp. 203 (D.Mass.1992) ("Borland II"), 831 F. Supp. 202 (D.Mass.1993) ("Borland III"), and 831 F. Supp. 223 (D.Mass.1993) ("Borland IV"). The decision of the Court of Appeals appears at 49 F.3d 807 (1st Cir.1995) ("Lotus v. Borland").

The 1-2-3 user interface presents command choices through a "two-line moving cursor." The top line is the set of available command options, and the second line is the "long prompt," or explanatory message, for the command on which the cursor is set in the top line. [FN2] Id. at 64, Pet.App. 227a. Commands are selected either by (a novice) using the cursor keys to highlight the desired command, then pressing "enter," or by (a more advanced user) typing the first letter of the command on the keyboard, in the same manner as a touch typing system. See, e.g., Pet.App. 288a (Kapor Aff.); Paperback at 64, Pet.App. 228a. Commands may also be selected when they are spoken into a computer equipped with voice recognition software. See Lotus v. Borland at 816, Pet.App. 17a.

FN2. A picture of a 1-2-3 screen with the menu commands and "long prompt" identified is found at A-4 in the Appendix to this brief and at JA 981.

Comparing 1-2-3's full-word menu presentation with the list of letters displayed by VisiCalc, Lotus asserts that its menu command hierarchy represented "a major advance in interface design." Lotus Br. at 11. The presentation of full words, however, like most of the rest of 1-2-3's user interface, was not original to Lotus-full word display was taken from a different product, VisiTrend/Plot, which also predated 1-2-3. VisiTrend/Plot was a graphics and statistical analysis program that 1-2-3's principal developer, Mitchell Kapor, worked on for a previous employer, Personal Software, Inc. Pet.App. 282a-283a (Kapor Aff.). Kapor's own affidavit, submitted by Lotus in this case, admits that the two line moving cursor and its "main elements" came from the earlier VisiPlot product. Id. at 286a-287a. Indeed, the record in this case demonstrates that virtually all of the user interface features associated by the district court in Paperback with 1-2-3 were taken initially from the VisiPlot product. See JA 311 (Buechele Decl.). These include features such as "full word command names," and "command long prompts following highlighting on status line." [FN3]

FN3. Other such features include a "highlighted, moving cursor," "command selection based on highlighting, with command activation based on subsequent

*4 2. Words and Order

(a) Words. It is equally undisputed that the vast majority of command words and functions of 1-2-3 were not original to that product. Many of the 1-2-3 menu commands and functions were present in VisiCalc. The early drafts of the menu command hierarchy of 1-2-3 were in substantial part identical to that of Visicalc, [FN4] and commands as well as functionality were incorporated into 1-2-3 from Context MBA (an applications program) and BASIC (a programming language). [FN5]

FN4. Lotus doc. 046195 LP; compare Lotus doc. KP00861 with Paperback at 67, Pet.App. 234a. The similarity was of both words and order. The menu command hierarchy was reordered shortly before commercial release to make it more functional. Compare Lotus doc. 046559, 582-608 (command structure as of Sept. 7, 1982) with Lotus doc. 046685-91 (final structure). The cited Lotus documents are attached to the Konstantaras Decl. (Dkt.230), Ex. A, H, I [Dkt. 241, 3:14-3:18; Dkt. 242, 4:22-5:24].

FN5. Lotus docs. KP02306; KP01103; KP01082; KP01085 (Dkt.230), Ex. B, C [Dkt. 241, 3:14-3:18; Dkt. 242, 4:22-5:24].

It is certainly no surprise that 1-2-3 would use the same command words as pre-existing products because, according to Jonathan Sachs, one of the 1-2-3 developers, "every command was chosen because it suggested to some measure what the command did." JA 750 (depo.). The Kapor affidavit is to the same effect: words were chosen to "intelligently convey to the user the purpose of

each command and its underlying functionality." Pet.App. 291a. [FN6]

FN6. In copyright terms, each menu command and its underlying function "merged." See, e.g., Morrissey v. Proctor & Gamble Co., 379 F.2d 675, 678-79 (1st Cir.1967).

(b) Structure. Lotus does not base its claim of infringement on Borland's use of the same command words, since those words are common to spreadsheet products. [FN7] Lotus' claim of infringement therefore devolves to the question of the copyrightability of the *5 order or structure of these common commands, but not the words themselves. Lotus Br. at 6.

FN7. For example, Quattro Pro's "native" interface, against which Lotus professes no claim, uses basically the same command set in a different order. Lotus makes no claim to the Quattro products' native interfaces. Borland iii at 211, Pet.App. 82a.

According to Lotus' affidavits, the commands were organized "hierarchically," in the manner depicted in the "menu tree," so that "the selection of one command option from the first level menu could lead in turn to another array of command options on a second level menu (or 'submenu'), and so on." [FN8] Pet.App. 287a (Kapor Aff.). This "menu tree" is merely a depiction setting out the organized hierarchical set of alternative steps that an individual may take to manipulate and perform calculations and other operations on the data contained in the cells of the spreadsheet grid. As the program executes, a few commands appear in the top portion of the screen in an order determined by the functional result the user is seeking. The hierarchical arrangement was chosen to enable "the novice user to browse through the menu levels, in order to view the valid sequences of available options (and their corresponding explanations) and to map out a plan for performing a particular task." Pet.App. 287a (Kapor Aff.).

FN8. A chart from the trial exhibit depicting a portion of this "tree" is reproduced in the Appendix to this brief at A-3. JA 918. The entire menu tree is depicted at Ex. C to Flesher Decl. (Dkt.81) [Dkt. 164, JA 78-79].

- (c) Code. Lotus' brief implies that 1-2-3's developers first prepared their product's code and then affixed labels to the various functions. See Lotus Br. at 9. In fact, however, the record submitted by Lotus in the trial court reveals a far more iterative process, during which changes in the hierarchy were implemented (or "expressed") in code. Kapor started borrowing user interface features from VisiPlot in December of 1980 and began to apply these ideas to his new product in mid-1981. Pet.App. 285a (Aff.). "Typically, Kapor suggested a feature; we [Kapor and Sachs] discussed it; and [Sachs] attempted to implement it in the program's source code." JA 538 (Sachs Aff.). In 1982, Kapor made the final decisions as to "what words would be used and where on the menu tree they would be located. [Sachs] then modified the source code to reflect [Kapor's] changes." Id. at JA 539.
- (d) Description. Lotus describes the purpose of the menu command hierarchy in terms that differ markedly from the record in the district court. Lotus asserts that a "proper understanding of *6 the nature and purpose of the 1-2-3 menu command hierarchy is critical to an appropriate resolution of this case." Lotus Br. at 5. But Lotus omits any mention of the other elements of 1-2-3 that explain and describe the hierarchy, leading the reader to conclude that the hierarchy must, of necessity, fill the role of providing explanation, as well as invoking functionality. Without any citation to the record, Lotus argues, for example, that the menu words are "a form of structured dialog between 1-2-3's authors and users." Id. at 6. For purposes of this appeal, the words supposedly are "simply words of text" that "provide information" in "plain English" like "the pages of an instruction manual." Id.

In fact, the Lotus commands are no more "an in-

struction manual" than are the " []" or ">>" buttons on a videocassette recorder ("VCR") the same as the VCR instruction manual. Lotus' key witnesses, documents and experts in the district court all drew a firm line between the functional role of the menu commands in the hierarchy (the "options" for "performing a particular task") "explanation" of those commands provided elsewhere in the product. The affidavit of 1-2-3's principal developer, for example, described the elements of the 1-2-3 user interface in terms similar to those employed by this Court in Baker v. Selden. Thus, according to the Kapor affidavit, the object of the long prompts is to provide "information to the user" and "explanations," while the object of the menus is to perform "a particular task." Pet.App. 287a, 296a. Compare 101 U.S. 99, 105 (the object of copyrightable subject matter is "explanation," while the object of patentable subject matter is "use").

Lotus' expert Galler also distinguished between the menu choices themselves and "explanatory information"-in the form of long prompts and help screens-about the menu choices. JA 376-77, 381 (Galler Decl.). As the Galler declaration (submitted by Lotus) makes clear, the command words do not explain to the user how to use the system-they identify the functions that comprise the system and provide the means by which each function is invoked. Explanation and education are provided by the on-line help facility, product documentation, long prompts, and tutorials supplied with the system. Id. at 377; see also JA 393-94 (2nd Galler Decl.) (admitting command words do not provide sufficient *7 information to be a substitute for the documentation, tutorials or help screens).

(e) Written materials. The written materials that accompany the Lotus product reflect the same dichotomy between the functional words of the hierarchy and their accompanying description. According to Lotus' written materials, the menus are "options" that the user may "select." [FN9] A long prompt, on the other hand, is a "brief description of what the

command does." [FN10] A more complete explanation can be found in the on-line "Help" text that the program displays on the screen: "The Help facility is like a reference manual that is always open to the right page." [FN11] And, finally, of course, the written documentation provided by Lotus "contains detailed information about all of the features of 1-2-3." [FN12]

FN9. Lotus 1-2-3 User's Manual (1983), Borland's Mem. in Support of Cross-Motion for S.J. ("Borland S.J. Br."), Ex. 9 ("S.J.Ex.") (Dkt. No. 142) at L084455 [Dkt. 164, JA 78-79].

FN10. Lotus 1-2-3 Reference Manual, Release 2 at 28 (1st ed. 1985) ("1-2-3 Ref.") (Dkt.158) [Dkt. 164, JA 78-79]. The First Circuit noted that "[t]he long prompts explain, as a sort of 'help text,' what the highlighted command will do if entered." Lotus v. Borland at 811 n. 2, Pet.App. 7a.

FN11. Lotus 1-2-3 Tutorial, Release 2 at 12 (1st ed. 1985) ("1-2-3 Tut.") (Dkt.158) [Dkt. 164, JA 78-79].

FN12. 1-2-3 Tut. at Preface (Dkt.158) [Dkt. 164, JA 78-79].

The commands are the means by which a user invokes the functionality of the program. Each individual command and each sequence of commands is described and explained in the long prompts, the on-line help text, and the user's manual. See 1-2-3 Ref. at 44 (Dkt.158). Tables illustrating the descriptions given for particular command sequences in each of these sources are set out in the record as part of Borland's motion for summary judgment in the District Court. See Borland's Mem. in Support of Renewed Motion for S.J. (Dkt.168) at 55, 56.

Borland does not deny that the user's manual, online help text, and perhaps even the long prompts may contain copyrightable "expression." But Lotus has not accused Borland of copying such explanat-

ory text. Lotus' claims are directed only to the menu command hierarchy which Lotus' own witnesses documents readily and distinguish "explanation" and "description." *8 Nor was the district court under any illusion that it was protecting something akin to "the pages of an instruction manual." Lotus Br. at 6. There was no misunderstanding by the district court as to "the nature and purpose" of the subject matter at issue. Given the record created by Lotus, [FN13] the district court forthrightly and correctly described the menu command hierarchy in starkly functional terms-as the "selection and arrangement of executable operations," which the district court held to be copyrightable subject matter. Borland IV at 231, Pet.App. 41a. The district court was equally unambiguous in holding that copying functionality constitutes copyright infringement: "Borland's reason for copying the menu command structure was to obtain the benefits of its functionality." Borland II at 209, Pet.App. 115a. Having labored to obtain exactly what it sought from the district court-protection by copyright over the "selection and arrangement of executable operations"-Lotus should not now be heard to suggest that it is really the "explanation" as opposed to the "system" or "method of operation" that it is trying to protect.

> FN13. The district court record also reflects the fact that the 1-2-3 hierarchy was organized according to a number of functional principles: predicted frequency of use of commands, approximately seven functions on a menu level, unique first letters on each level, etc. See, e.g., Paperback at 67, Pet.App. 234a; Pet.App. 291a-292a (Kapor Aff.). For example, commands within a given menu level were arranged from left to right in declining order of frequency of usage, so as to minimize keystrokes. Pet.App. 291 a (Kapor Aff.). The lower court found that these principles functioned merely as "guidelines" and did not fully constrain the choice of words or order at the time Lotus 1-2-3 was first de

veloped. Borland III at 213, Pet.App. 85a.

3. Success of 1-2-3

1-2-3 was a market success, but that success had little to do with the menu command hierarchy. As the district court observed in Paperback, VisiCalc, the predecessor of 1-2-3, was programmed for use on the Apple II computer, which had limited functional capabilities. Paperback at 65, Pet.App. 230a-231a. When the IBM PC was introduced in August of 1981, the developers of 1-2-3 "exploited this opportunity" by designing 1-2-3 to take "advantage of the IBM PC's more expansive memory and more versatile *9 screen display capabilities and keyboard." Id. at 66, Pet.App. 231a. [FN14] The menu command hierarchy was simply not a qualitatively significant part of the product at the time of its introduction, either from Lotus' viewpoint or the viewpoint of users. As the district court observed, citing Borland's experts, "the words Lotus selected did not matter for 1-2-3's success." Borland III at 213, Pet.App. 87a. [FN 15]

> FN14. The former Lotus executives responsible for the "launch" and initial marketing of 1-2-3 testified that the menu commands played no ascertainable role in its commercial success: "Any word would have sufficed for a command so long as the word conveyed to the user in a direct and simple way the function of the command." JA 528 (Raburn Decl.); see Borland S.J. Br. (Dkt. No. 141) at 134-35; JA 527 (Raburn Decl.); JA 404-06 (Goldschmitt Decl.). An internal Lotus memorandum prepared shortly before 1-2-3's introduction did not identify the command hierarchy as a feature that would cause 1-2-3 to be a success. JA 405-06 (Goldschmitt Decl.); S.J. Ex. 31 (Dkt.142) at KP02216-KP02224 (Product Positioning Summary, Sept. 7, 1982) [Dkt. 164, JA 78-79].

> FN15. Nor did Lotus' expert dispute the

point. Rather, he deemed the question of whether other words could have been changed at the time of 1-2-3's development to be "irrelevant." JA 343 (Emery Decl.). The only finding the district court made with respect to the menu words was that the menus used were a "more than trivial" portion of the program. Borland II at 219, Pet.App. 135a.

The exact words and order of the Lotus menu command hierarchy were not important to the product's initial success, but they became vitally important to the success of later 1-2-3 versions and spreadsheets offered by Lotus' competitors because of the "macro" capability included within the first 1-2-3 release. The citations for Lotus' assertion that "both sides experts agreed" that the menus possessed "great commercial significance," Lotus Br. at 11, all refer to the period of time after users invested heavily in the creation of "macros." See JA 343-344 (Emery Decl.); JA 507 (Olson Decl.).

Like the other 1-2-3 features, macro capability was not original to 1-2-3; it was taken from pre-existing products. Pet.App. 290a (Kapor Aff.); JA 529-30 (Raburn Decl.). From the initial release of 1-2-3, the documentation for the product instructed users to create "keyboard macros." JA 530 (Raburn Decl.) & JA 535-36 (Ex. B); JA 877 (Ex. 38) [Dkt. 164, JA 78-79]. "Macros" are application programs that users and third parties write, using the *10 words and order of the 1-2-3 menu command hierarchy as a "command language." Pet.App. 290a (Kapor Aff.). A simple macro is a stored set of instructions that can be invoked in a single keystroke, see Paperback at 64, Pet.App. 228a, but more complicated macros, consisting of thousands of lines of code, perform sophisticated applications, see Borland IV at 227, Pet.App. 32a; JA 508 (Olson Decl.) (example of more complex macro).

A macro represents a set of steps that must be performed in a designated way-that is, according to the words and order of the 1-2-3 hierarchy. Synonyms for the words and/or an alternative order simply

will not work. See Borland II at 213-14, Pet.App. 122a-125a. As the district court observed, "the exact hierarchy-or structure, sequence and organization-of the menu system is a fundamental part of the functionality of the macros." Paperback at 65, Pet.App. 229a. [FN16]

FN16. Obviously, a user cannot write a 1-2-3 macro-i.e., use the words and order of the 1-2-3 hierarchy as a programming language-unless those words and their order are displayed to the user. Similarly, if the user is writing the macro for use by others, those users cannot rewrite, debug (i.e., correct) or modify the macro (nor can the author) without visual access to the 1-2-3 hierarchy. See, e.g., JA 763 (Warfield Depo.). While some macros can be executed (i.e., run by the program) without the command words being displayed, the district court found that macros which require input from the user to complete their execution-"interactive macros"-require display of the exact words and order of the hierarchy to enable execution. See Borland IV at 227, Pet.App. 32a.

B. The Development of the Borland Products.

Borland's objective was to design spreadsheets that were far superior to existing spreadsheet products, not to produce a Lotus look-alike or "clone." See, e.g., JA 575-76 (Bosworth Depo.). It took Borland's team of engineers nearly three years to produce Borland's first spreadsheet, Quattro. Id. at 541-43. As the Court of Appeals observed, Pet.App. 4a, Quattro included enormous innovations over competing spreadsheet products, including Lotus 1-2-3. [FN17]

FN17. These features, affecting the program's functionality, user interface and menu command hierarchy, were set forth in detail in Borland's S.J. Br. (Dkt.141) at 52, 53 and specifically cited to the Court of Appeals. See Borland 1st Cir. Br. at 16.

*11 Quattro Pro was first introduced in 1989 and won every major award for spreadsheet excellence given in the software industry. See Borland's S.J. Br. (Dkt.141) at 2. Lotus' assertion that the record lacks proof as to the "inherent product superiority" of Borland's programs, Lotus Br. at 15, is simply incorrect. Borland's proof in both the district court and the Court of Appeals came from Lotus' own documents. For example, Quattro Pro invariably ranked substantially higher than 1-2-3 in headto-head reviews and user comparisons, including those conducted by Lotus. [FN18] As early as 1988, a Lotus internal study showed that 1-2-3 users no longer considered the 1-2-3 user interface as the best user interface. JA 832. Lotus spreadsheets were viewed as far less technologically advanced than those of either Borland or Microsoft. JA 882-883. And Lotus' own "Quattro Pro Displacement Study" stated that two-thirds of spreadsheet users rated Quattro or Quattro Pro as the best spreadsheet on the market. JA 864. [FN19]

FN18. JA 821-826; Borland S.J. Br. (Dkt.141) at 2; Borland 1st Cir. Br. at 17.

FN19. S.J. Ex. 14, 27, 40 (Dkt.142) [Dkt. 164, JA79]. Nor did the Court of Appeals fail to "realize that there were newer versions of Lotus' products" in the record. Lotus Br. at 15 n. 25. Rather, as Borland argued to the Court of Appeals, Borland 1st Cir. Br at 2, the Complaint charges infringement of only Releases 1.0, 1A and 2.0 of the Lotus product, and subsequent versions were placed in the record over Borland's objections. JA 15-16 (Complt.). The record demonstrates that Lotus copied into these subsequent versions of its own product features unique to Quattro at the time of Quattro's release. These features are described in detail at Borland S.J. Br. (Dkt.141) at 53.

The Borland products were written in wholly original code. Lotus' brief seems to imply some similarity of code by stating that the menu words are "spelled out, in text, in the program code," Lotus Br. at 7, but any such suggestion is wholly without support. At no time in the proceedings below did Lotus ever claim code similarity or that Borland copied Lotus' computer code, nor was the code of any product ever submitted as evidence at any point in the proceedings below. [FN20] In fact, the district court expressly held *12 that code was not at issue in the case. Trial Tr. of Apr. 1, 1993, (Dkt.404) JA 299-300.

FN20. Lotus' record cites refer only to a portion of a Borland data file which was placed in the record to show the existence of an abbreviated version of the Lotus menu tree. While Lotus asserts that the menu words were "hidden inside" the Borland program, Lotus Br. at Is, it is uncontroverted that "the menus themselves are divorced from being any part of any executable code." JA 792 (Warfield Depo.). Similarly, Lotus made no showing whatsoever as to any relationship between its menus and its own code, and it would be technically incorrect to infer any specific relationship between the code and the commands of the screen. See, e.g., JA 450 (Liddle Decl.).

The user interface of Quattro Pro is different in every respect (save some of the command words) from that of the 1-2-3 versions at issue in this case. Indeed, the differences in user interface are so striking that, as the First Circuit noted, Lotus did not even cross-appeal from the district court's finding that the Borland interface "looks substantially different from the 1-2-3 user interface." See Lotus v. Borland at 18, Pet.App. 9a-10a; Borland II at 220, Pet.App. 137a. [FN21]

FN21. Figures I and 2 in the Appendix to this Brief (pp. A-1, A-2) compare the Lotus and Borland screen displays, as the programs look when engaged in the same operation. JA 979-80. See also Borland's S.J. Demo Video (Dkt.90) [Dkt. 164, JA

78-79], copies of which are lodged in the clerk's office.

The Quattro products were shipped with a number of different menu command hierarchies. In both products, a completely original menu command hierarchy is the "native" or default mode that is automatically presented to the user. The user is required to install any of the alternative hierarchies, including the 1-2-3 compatible hierarchy. Although Lotus suggests that users would readily employ the compatible menus to manipulate the spreadsheet, Lotus Br. at 13, Lotus' own documents belie any such suggestion. Lotus' 1990 study, for example, confirmed that Quattro users use the native menus for spreadsheet functionality, reserving the 1-2-3 compatible modes to run macros, which "continues to be important, because users frequently exchange files with 1-2-3 users." JA 871. [FN22] S.J. Ex. 27 (Dkt.142) [Dkt. 164, JA 78-79].

> FN22. The menus that provide 123-compatibility in Borland's products are not merely a copy of the 1-2-3 comhierarchy. Rather. 123-compatible menus also contain all of the functionality of the command sets from the native mode. As a result, the 1-2-3 menu command hierarchy sequences, designed by Lotus for a different menu presentation and function set, is clumsy and dysfunctional when used with the Quattro and Quattro Pro menu presentations. JA 565-566 (Bosworth Depo.); JA 520-522 (Olson Decl.). According to a study conducted by Burke Marketing Research, one of the largest and most respected market research organizations in the country, only about 12% of Quattro and Quattro Pro users use the 123-compatible menus. Indeed, two-thirds of those who have ever used the com123-patible menus cite the running of 1-2-3 macros as a reason for doing so, and 35% use the compatible menus only when someone else gave

them a worksheet with 1-2-3 macros. JA 308 (Boyd Decl.).

*13 As the Court of Appeals explained, Pet.App. 4a-5a, Borland incorporated 1-2-3 hierarchy command sequences into the visual display of its compatible mode for two reasons: first, to enable spreadsheet users who were already familiar with Lotus 1-2-3 "to switch to the Borland programs without having to learn new commands," and second, because there was no other way to achieve complete macro compatibility-i.e., to enable users to run, modify and debug macros originally created for use in 1-2-3. [FN23] The designers of the Borland products neither contemplated nor desired that the 1-2-3 commands be used routinely in place of the native command hierarchy.

FN23. JA 656-57, 658-59 (Kahn Depo.); JA 553-555 (Bosworth Depo.). Lotus incorrectly asserts that Borland's executives "could not swear" that macro compatibility "was necessary to allow Borland to offer a commercially viable product," Lotus Br. at 15 (emphasis in original). As Borland's president put it, "macro compatibility was the key to being able to have a product that could have any chance in the market-place." JA 657 (Kahn Depo.).

FN24. JA 656-57 (Kahn Depo.); JA 566 (Bosworth Depo.).

C. Market Effects

Lotus asserts that the anticompetitive effects flowing from its assertion of copyright protection are not sufficiently documented in the record to support the First Circuit's decision. See Lotus Br. at 15-16, 45-47. Specifically, Lotus claims that Judge Boudin's discussion of both user "lock in" and appropriation by Lotus of end user investment in the hierarchy are "without record support" and "derived from a non-existent record." Id. at 45, 16. This argument is preposterous.

In its initial summary judgment memorandum, Lotus argued that its user interface, specifically its menu command hierarchy, was the most important part of its product. JA 366 (Galler Decl.). Borland countered that Lotus' particular words and order were not *14 commercially significant at the time of the first release of Lotus' product, see, e.g., JA 454 (Liddle Decl.); JA 507 (Olson Decl.), and Lotus responded that the precise words and order of its hierarchy became extremely valuable through the investments of users and other third-parties, see, e.g., JA 600-01 (Emery Depo.)-a conclusion with which Borland agrees.

As a consequence of Lotus' strategy, Borland was able to compile an exhaustive record of market effects, based solely on the testimony of Lotus' executives and expert witnesses and on the text of Lotus' documents. Judge Boudin's comparison of the Lotus menus to the QWERTY keyboard, Pet.App. 24a, 26a, for example, is no more than an echo of the testimony of Lotus senior executive Frank Ingari, who argued that the "fingertip knowledge" of "millions" of 1-2-3 users, comparable to how "you and I might type on a Qwerty keyboard," provides "an extremely strong incentive for users to stay with Lotus." JA 649-50. Lotus expert James Emery agreed, arguing that users "would be unwilling to change" from the 1-2-3 menus because that would not only involve "foregoing" the "learning that they invested in it, but a whole set of auxiliary advantages of third [party] products, trained user population, textbooks, et cetera." JA 601 (depo.).

Indeed, the most compelling testimony concerning market effects came from Emery, who, in describing how the Lotus menus came to be valuable, delivered a textbook definition of what economists call a "network effect":

There tends to be a whole structure that grows up around the successful product and we get a positive feedback mechanism, that the value of a product increases greater value, which in turn, further increases the value through all these ways.

JA 600-01 (depo.). Emery therefore concluded that

the value of the 1-2-3 menus "lies precisely in the familiarity that millions of 1-2-3 users have acquired with them." JA 343-44 (decl.); JA 600 (depo.).

The Lotus documents tell an equally compelling story. The Lotus documents show that 1-2-3's market dominance was wholly attributable to the fact that, at the time of its market release, 1-2-3 was superior to VisiCalc, the only real competition at the time. JA 833. By 1988, "the vast majority of PC users had chosen 1-2-3 as their spreadsheet. That decision was made when 1-2-3 first came *15 out...." Id. The documents explain that 1-2-3 continued to be successful because of the users' "investment" in "learning" and macros enabled 1-2-3 to lock in those users who first selected it over VisiCalc. See JA 877. As a result of the users' investment, 1-2-3 became, in the words of Lotus' own documents, "entrenched." [FN25] S.J. Ex. 14, 38 (Dkt.142) [Dkt. 164, JA 78-79].

FN25. JA 880 (1987 Lotus marketing report stating that "there have been a number of spreadsheet products on the market that have had greater functionality than 1-2-3," but these products "have not made a significant dent in our market share due to a number of reasons, including the entrenchment of 1-2-3[and] the investment by customer organizations in training and applications development. ..."); JA 871 (1990 Lotus study stating "[t]here is still an entrenched 1-2-3 user base out there," noted that users were "too familiar with 1-2-3 to try to change to something else"). S.J. Ex. 27, 39 (Dkt.142) [Dkt. 164, JA 78-79].

Hence, unless a new entrant in the spreadsheet market could compete for the business of the "vast majority of PC users" who initially chose 1-2-3 over VisiCalc, competition would be limited solely to new spreadsheet users, a minor portion of the market. There would have been little, if any, business to compete for; "no one" in Lotus' internal study, for example, "was using Quattro [Pro] as their first-

time spreadsheet." JA 868. "Macro compatibility" according to Lotus documents, was "the most important item" to these spreadsheet users. "Macro compatibility is KEY." JA 834, 836. S.J. Ex. 14, 27 (Dkt.142) [Dkt. 164, JA 78-79].

The Lotus documents also demonstrate that 1-2-3 users did not continue to support Lotus' product because they viewed it as superior. On the contrary, by the time of Lotus' 1990 study, "most of the 1-2-3 users did not necessarily think 1-2-3 was better, they just thought it was the product they were used to." JA 871. But because of their sunk investments, users were locked into the 1-2-3 menu command hierarchy.

Even Lotus itself was "locked in." Lotus' president Jim Manzi testified to the importance of macro compatibility in the context of a problem that arose when a version of 1-2-3, Release 2.0, was only "99-44/100 percent compatible" with previous versions. JA 715 (Manzi Depo.). Although Release 2.0 was only "off by 56/100 of a percent in terms of compatibility," Lotus was required to reengineer "on a breakneck pace Release 2.01 to achieve 100 percent *16 compatibility, because we made an awful lot of customers angry." Id.

The benefits of these market effects to Lotus are well-documented in the record. At the beginning of 1988, less than two months after the original Quattro product was released (and about two years before Quattro Pro was released), Lotus announced that 1-2-3 held 70% of the spreadsheet market, and that "[i]f at the end of 1988 we still own that 70%, we're home free." JA 928 (1988 Sales Speech) S.J. Ex. 24 (Dkt.142) at 13 [Dkt. 164, JA 78-79]. In 1990, shortly after Quattro Pro was released (and after this lawsuit was filed), Lotus' President and CEO announced that 1-2-3 still held a 70% market share. JA 922 (Manzi 1990 PC Users Group Speech) S.J. Ex. 37 (Dkt.142) at 7 [Dkt. 164, JA 78-79]. Finally, in August of 1992, at the time that Borland removed the 123-compatible mode from its products in response to the Borland II decision, Lotus claimed, based upon data published by the Software Publishers Association, that 1-2-3 still had 70% of the market. Wall St. J., Aug. 13, 1992, at A5, JA 920. [FN26]

FN26. [Dkt. 320, 190:25]. The significance of these market effects was argued by Borland to the district court, and the district court twice held, at Lotus' urging, that lock-in with respect to macro compatibility was irrelevant to the issue of copyrightability. Borland IV at 233, Pet.App. 45a-46a; Borland 11 at 214, Pet.App. 124a. When a number of the user groups sought to argue before the district court, the court refused to hear them. See Tr. of Aug. 19, 1993 Conf. at 14 (Dkt.406).

Lotus' brief invites the Court to ignore this record and rely instead on Lotus' extra-record assertion that the Lotus product by 1993 fell "far behind" that of Microsoft Corp., Lotus Br. at 16, as a basis for concluding that the First Circuit had a "deeply flawed understanding," id. Extra-record assertions are not necessary to explain Microsoft's success; the district court record contains ample explanation. Lotus declined to sue Microsoft, and hence, Microsoft was able to offer a 1-2-3 compatible spreadsheet while Borland was enjoined from doing so. See, e.g., Borland IV at 230, Pet.App. 39a (district court declines to rule on Microsoft's copying of the 1-2-3 menu hierarchy). A screen shot from the record below *17 of the Microsoft product displaying the Lotus menus is found at A-5 in the Appendix. ${\rm [FN27]}$ JA 983.

FN27. A more complete understanding of the reasons for Microsoft's success would require additional extra-record facts. Microsoft was able to supplant 1-2-3 only by publishing a new operating system (Windows), migrating users to that new operating system, and releasing a new spreadsheet for the new operating system before supplying Lotus with the technical information necessary to publish 1-2-3 for the new operating system.

D. Procedural History of the Case

The procedural history of the case is summarized in Lotus v. Borland at 810-12, Pet.App. 5a-10a. This lawsuit was filed on July 2, 1990. In the Borland I decision the district court ruled that as of March 20, 1992, almost two full years into the case, Lotus still had "not formulated for the court or for Borland its precise contentions ... as to which elements of 1-2-3, separately or in combination, were copyrightable or were copied." Borland I at 98, Pet.App. 180a. Nevertheless, the district court relegated § 102(b), the list of what is not copyrightable, to mere "abstraction[s]," and held that copyright protection attaches to any and all words through which a system, process or method of operation is stated. Id. at 91, Pet.App. 167a.

On July 31, 1992, the district court issued its Borland II decision. The district court's principal holding, clearly set out in the Procedural Order that accompanied the opinion, was that "[t]he menu commands and menu hierarchy of Lotus 1-2-3 have expressive aspects and are copyrightable." Proc. Ord. (Dkt.195) at 19. On three separate occasions after the Borland II decision, Borland moved to certify for interlocutory appeal the menu command hierarchy's copyrightability, but the district court denied all three motions, [FN28] and instead insisted on holding trials that even Lotus' counsel argued were unnecessary. See, e.g., Tr. of Jan. 14, 1993 Hearing (Dkt. No. 310) at 53-54.

FN28. See Tr. of Sept. 23, 1992 Hearing (Dkt. No. 241) at 54; Tr. of Oct. 16, 1992 Hearing (Dkt. No. 242) at 15-17; Tr. of Aug. 19, 1993 Hearing (Dkt. No. 406) at 42-43.

The first of these trials resulted in the Borland III decision in which the district court held that there were functional alternatives *18 to the 1-2-3 menu command hierarchy at the time of its creation (something Borland has never contested). In Borland IV, the district court held infringing Borland's "Key Reader" feature, which permitted limited

macro compatibility. The district court reached this conclusion by holding that the menu command hierarchy was nothing more than "the selection and arrangement of executable operations," but was entitled to copyright protection as a "non-literal aspect of the computer program code." Id. at 232-33; Pet.App. 43a-45a.

FN29. The district court also held that there are two methods to execute some 1-2-3 macros, "one time macro translation," and "on-the-fly" interpretation. Borland IV at 230, Pet.App. 38a-39a. The district court held that it is impossible to provide "on-the-fly" interpretation (the method used by Borland) without including a "copy" of the Lotus menu structure, id, and held that method infringing because it employs the 1-2-3 menu structure, id. at 235, Pet.App. 48a. The district court also held that it is impossible to provide onetime translation without "copying" the 1-2-3 menu structure, but declined to decide whether one-time translation was a copyright infringement. Id.

Finding that the district court had misconstrued § 102(b) of the Copyright Act as well as the applicable case law, the First Circuit Court of Appeals reversed the district court decisions. The First Circuit's opinion relied on the express language of the statute that forbids copyright protection for "methods of operation" and "systems." [FN30] Judge Boudin filed a separate opinion in which he concurred in the majority's reasoning as well as its conclusion. Lotus v. Borland at 821, Pet.App. at 27a-28a. Judge Boudin went on to explain that extending copyright protection to the command words at issue, as the district court had done, is at variance with the intent of Congress and is both inefficient and anticompetitive from an economic perspective.

FN30. Lotus correctly notes that the First Circuit's opinion did not reach the merits of Borland's appeal on any of Borland's affirmative defenses, such as fair use,

waiver, laches, and estoppel. Lotus Br. at 4 n. 6. If the First Circuit's decision is not affirmed, that court would have to decide those issues on remand, including Lotus' incorrect assertion that certain defenses were "abandoned." Id. The District Court's rejection of Borland's fair use defense is particularly erroneous in view of the intervening opinion in Campbell v. Acuff-Rose Music, Inc., 114 S.Ct. 1164 (1994).

INTRODUCTION AND SUMMARY OF ARGUMENT

At the heart of this case is the question of the respective roles Congress intended for patent and copyright to play in providing protection for works such as the Lotus menu command hierarchy. In Lotus' brief, there is little acknowledgment that the dividing line between copyright and patent even is at issue. Indeed, Lotus has excised all reference to the patent law in its quotation of Art. I, § 8, cl. 8, the constitutional authorization for both sets of statutes. See Lotus Br. at 1, 19, 20. Similarly, Lotus has omitted any reference to the line that this Court drew between patent and copyright in its landmark decision in Baker v. Selden, 101 U.S. 99 (1879), even though that was the principal holding of the case.

Lotus asks this Court to hold that a software developer, through the mere assertion of copyright, can secure all the benefits of patent protection without meeting any of the statutory requirements, including "novelty," "nonobviousness," examination, and disclosure of "best mode." See 35 U.S.C. §§ 102, 103, 112, 131 (1995). Its principal argument in support of extending copyright protection to what the District Court repeatedly called Lotus' menu command "system," [FN31] is that Congress decided that such protection was appropriate when it endorsed copyright protection for "computer programs" in 1976. Lotus' reply to the distorting effects of its claim on both patent and copyright law seems to be: Congress has spoken. See, e.g., Lotus Br. at 45-49.

FN31. See, e.g., Paperback at 66, Pet.App. 232a (multiple references to the menu command "system"); Borland II at 213, Pet.App. 123a (the menu "system" is "fundamental" to its "functionality" as a macro language).

Lotus' argument is built upon a number of infirm foundations. The first, and perhaps most fundamental, is that the menu command hierarchy does not in fact come within the copyright statute's definition of "computer program," either on its own or as a product of the 1-2-3 code. Whatever the scope of copyright protection that Congress intended for "computer programs," this case falls outside of it. The menu command hierarchy is subject to the same regime as other works-the regime of Baker v. Selden and its progeny.

There are other, equally grievous flaws in Lotus' theory. Perhaps the most striking is Lotus' refusal to recognize any delimiting concept on copyright other than the "idea/expression" dichotomy. The omission is particularly notable inasmuch as it requires Lotus to read all of the terms that follow "ideas" in Section 102(b)'s limitation on copyright-including words such as "process," "method of operation," and "system," each with obvious roots in the patent law-as if they had no independent meaning whatsoever. Similarly, it leads Lotus to argue that the "goal of copyright" is to promote the "useful [a]rts," Lotus Br. at 24 (emphasis in original), thus seeming to overlook the fact that since 1793 the protection of the useful arts has been expressly the subject of the patent statute, not copyright. [FN32]

FN32. See Act of Feb. 21, 1793, § 1, 1 Star. 319 (statutory subject matter of patent is "any new and useful art, machine, manufacture, or composition of matter, or any new or useful improvement [thereof]").

Also missing from Lotus' argument is any acknowledgment that the copyright and patent laws both are subject to the limitation, Constitutional in origin, that they must "ultimately serve the public good." Fogerty, 114 S.Ct. at 1029. Federal intellectual property rights are not free: they deprive future creators and the public at large of the free enjoyment and use of "writings" and "discoveries." The scales accordingly are weighted against the grant of a right of private monopoly: free exploitation by the public is the rule, not the exception. Feist Publications, Inc. v. Rural Telephone Svc. Co., 499 U.S. 340, 349-350 (1991); Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 156-157 (1989). The creation of a private federal monopoly is appropriate only to the extent that it is necessary to ensure the promotion of new works. Fogerty, 114 S.Ct. at 1029; Bonito Boats, 489 U.S. at 150-151.

At the heart of both copyright and patent, therefore, is a careful balance between what is left in the public domain and what may be restricted to private use. Because these two intellectual property regimes cover different subjects, however, they strike the balance in different places. As Judge Boudin noted in his concurring opinion in the Court of Appeals, copyright is not unduly concerned with overprotection of writings, because the cost is relatively slight: a "mistake" would simply mean that "subsequent authors treating the same themes must take a few more steps away from the original expression." Lotus v. Borland at 819, Pet.App. at 23a.

In promoting the "discoveries" of "inventors," patent law strikes a different balance. Because a mistaken grant of monopoly in the most efficient or effective machine or process is more costly to the public than a monopoly on the text of Hamlet, patent sets the standard for a grant of private monopoly far higher: the work must be novel and nonobvious, there must be disclosure of the best mode known for carrying out the invention, and so forth. Moreover, because technological innovation most often consists of refinements and small steps, the patent law limits protection to the inventor's enumerated claims, and substantial deviation from even one of the claim's recited elements takes the later inventor outside of the patent.

In this case, Lotus' menu command hierarchy

plainly was within the scope of the subject matter of the patent statute. Indeed, others, including Lotus' parent, IBM, actually have obtained patents on similar menu displays as "processes" and "systems." Lotus nevertheless contends that it should be able to obtain patent-like protection for its menu command hierarchy without any showing that its work constitutes an advance in the useful arts.

Arguing by analogy to the Copyright's treatment of "useful articles," Lotus contends that Congress could have provided narrow limits on the scope of protection for computer programs if it had chosen to do so. Lotus Br. at 30-31. In fact, however, that is precisely what Section 102(b) does, and what it was intended to do. In enacting Section 102(b), Congress made it clear that it did not intend for copyright protection for computer programs to cause a major shift in the balance between patent and copyright law. Indeed, it made it clear that a program's "processes" and "methods," such as the menu command hierarchy here, specifically were excluded from the scope of copyright protection. Therefore, the menu command hierarchy would be excluded under Section 102(b) even if it otherwise qualified for protection as a part of the Lotus 1-2-3 "computer program" under Section 102(a).

*22 ARGUMENT

This Argument proceeds in two paras. Section I begins by addressing the part of the federal intellectual property scheme left out by Lotus-the patent laws. It then addresses this Court's decision in Baker v. Selden, and its recognition that copyright should not be used to end-run the standards required to obtain a mechanical or process patent. Section I concludes by showing that Section 102(b) was intended to incorporate this limitation on copyright, including copyright protection for computer programs.

Section II applies the terms of Section 102(b) to Lotus' claim. First, it shows that the menu command hierarchy is not protected as a "computer pro-

gram" under Section 102(a), and hence is subject to the same rules as have traditionally been applied to expressive works. Second, it shows that while the menu command hierarchy may be a part of other "works of authorship" that qualify for protection under Section 102(a)-namely, the Lotus reference manual and the 1-2-3 screen display-it is an unprotected element under Section 102(b). Finally, it shows that the same result would obtain even if the "work of authorship" were considered to be the 1-2-3 "computer program."

I.

COPYRIGHT PROTECTION MAY NOT BE USED TO AVOID THE STATUTORY REQUIRE-MENTS OF THE PATENT LAWS.

Because copyright's central purpose is to "encourage others to build freely upon the ideas and information conveyed by a work," the Court has held that "it is peculiarly important that the boundaries of copyright be demarcated as clearly as possible." Fogerty, 114 S.Ct. at 1030. In drawing these boundaries, Lotus seemingly forgets that copyright is only one-half of the intellectual property scheme that Congress has devised. Copyright's contours cannot properly be marked out without considering the remainder of the Congressional scheme.

The "historic kinship" between patent law and copyright law, Sony Corp. of America v. Universal City Studios, Inc., 464 U.S. 417, 439 (1984), begins with the Constitution itself. See U.S. *23 CONST. art. I, § 8, cl. 8. The Patent and Copyright Clause was enacted against the backdrop of "this Nation's historical antipathy to monopoly," Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 530 (1972), and the patent and copyright laws share the same Constitutional limitation, which is that the monopolies they authorize "are limited in nature and must ultimately serve the public good." Fogerty, 114 S.Ct. at 1029.

FN33. See also Sony, 464 U.S. at 429

(copyright); Graham v. John Deere Co., 383 U.S. 1, 5-6 (1966) (patent).

Both statutes also have incorporated the Clause's terns in setting out the scope of their respective subject matters. On the one hand, the patent statutes, commencing with the 1793 statute authored by Thomas Jefferson, have defined patent's subject matter as including any "new and useful art," [FN34] thereby drawing upon the Clause's authorization to "promote the useful Arts." [FN35] Copyright, on the other hand, has taken as its subject the "writings" of "authors," a requirement carried forward in Section 102(a)'s protection for "works of authorship." [FN36] Its goal was the promotion *24 of "science," a term used at the time to signify general knowledge.

FN34. See Act of Feb. 21, 1793, § 1, 1 Star. 319. Subsequent patent statutes employed the same broad language. See Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980).

FN35. See H.R. R:P. No. 1923, 82d Cong., 2d Sess. 4 (1952) (observing that under U.S. Const. art. 1, § 8, cl. 8, "Congress has the power to promote the progress of useful arts by securing for limited times to inventors the exclusive right to their discoveries. The first patent law and all patent laws up to a much later period were entitled 'Acts to promote the progress of useful arts.' ").

FN36. See 17 U.S.C. § 102(a) (1995) ("Copyright protection subsists, in accordance with this title, in original works of authorship ..."). In employing the phrase "works of authorship," Congress sought to make it clear that it did not intend for the present Act to go to the limits of its constitutional authority. See H.R. REP. No. 1476, 94th Cong., 2d Sess. 51 (1976). ("In using the phrase 'original works of authorship,' rather than 'all the writings of an au-

thor' now in section 4 of the statute, the committee's purpose is to avoid exhausting the constitutional power of Congress to legislate in this field, and to eliminate the uncertainties arising from the latter phrase"). Accordingly, some writings do not qualify as "works of authorship" under Section 102(a). Id. at 51-52.

Under the 1909 Act, some jurists, including Learned Hand, had interpreted the "writings of an author" provision as reaching the constitutional limit, see, e.g., Capitol Records v. Mercury Records Corp., 221 F.2d 657, 664 (2d Cir.1955) (L.Hand, dissenting), and Congress sought to clarify that the 1976 Act did not have such a reach. See H.R. REP. No. 1476 at 51. ("Since the present statutory language is substantially the same as the empowering language of the Constitution, a recurring question has been whether the statutory and constitutional provisions are coextensive.... The bill avoids this dilemma by using a different phrase-"original works of authorship"-in characterizing the general subject matter of statutory copyright protection.") Thus, Lotus' contention that the language of Section 102(a) was intended to reach more broadly than its counterpart under the 1909 Act, see Lotus Br. at 20-21, presents an incomplete picture of the relationship between the two Acts. See also H.R. REP. No. 1476 at 51 ("The bill does not intend either to freeze the scope of copyrightable technology or to allow unlimited expansion into areas completely outside the present congressional intent") (emphasis added).

FN37. See H.R. REP. No. 1923 at 4 ("The purpose of [the first portion of the Clause] is to promote the progress of science by securing for limited times to authors the exclusive right to their writings, the word

'science' in this connection having the meaning of knowledge in general, which is one of its meanings today.").

It is a telling statement about the thrust of Lotus' argument that it contends that the "goal of copyright" is to promote the useful [a]rts." Lotus Br. at 24 (emphasis in original). Having turned a blind eye to the patent law's existence, Lotus effectively would interpret the copyright statute so as to subsume it. The patent law does exist, however; and the balance that Congress struck in the patent scheme has important consequences in establishing the limits of copyright.

A. The Patent Laws Carefully Limit the Extent to Which the "Useful Arts" May be Subject to Private Monopoly.

Three aspects of the patent statute are of particular significance for these purposes. First, the Court has construed the Clause's command to "promote the ... useful arts" as placing important limits on the circumstances under which Congress, consistent with its Constitutional mandate, could authorize "the embarrassment of an exclusive patent." Graham, 383 U.S. at 9. In particular, the Court held that the Clause mandates the high bar that the patent law requires before an innovative work may be patented. The Court held, id. at 5-6 (emphasis in original):

*25 The Congress in the exercise of the patent power may not overreach the restraints imposed by the stated constitutional purpose.... Innovation, advancement, and things which add to the sum of useful knowledge are inherent requisites in a patent system which by constitutional command must "promote the Progress of.... useful Arts." This is the standard expressed in the Constitution and it may not be ignored.

Second, the Court has held that the patent system is predicated upon the public's ability to trade freely in that which does not meet the patent statute's standards for patentability. In Bonito Boats, 489 U.S. at 156, the Court observed: "[T]he efficient operation of the federal patent system depends upon

substantially free trade in publicly known, unpatented design and utilitarian conceptions." The system would be undermined by a law which provided "patent-like protection" to "the functional aspects of a product which had been placed in public commerce absent the protection of a valid patent." Id.

In Bonito Boats, the Court dealt specifically with the question whether a state law which provided protection to unpatented works undermined the careful balance struck by Congress. Its analysis would apply equally, however, to the use of copyright in a way not intended by Congress that had the result of avoiding patent's novelty and nonobviousness requirements. The Court stated, id. at 156-157:

Both the novelty and the nonobviousness requirements ... provide the baseline of free competition upon which the patent system's incentive to creative effort depends. A ... law that substantially interferes with the enjoyment of an unpatented utilitarian or design conception which has been freely disclosed by its author to the public at large impermissibly contravenes the ultimate goal of public disclosure and use which is the centerpiece of federal patent policy. Moreover, through the creation of patent-like rights, the [statute] could essentially redirect inventive efforts away from the careful criteria of patentability developed by Congress over the last 200 years.

*26 Finally, for those inventions that overcome the hurdles to patentability, Congress has provided patentees with an explicit and powerful right to exclude, see 35 U.S.C. § 154 (1995), articulated in the patent case law as the right to control "use" of the patented invention, including "use" by end users. [FN38] The patentee's right to control "use" also includes the use of connecting to other devices-what would be known as "interface specifications" in technology jargon. [FN39] Copyright accords no such rights: it does not prevent the "use" of what is copyrighted, but focuses on the author's right to "reproduce the copyrighted work in copies." 17 U.S.C. § 106(1) (1995). As Judge Boudin found,

however, in the part of the record that Lotus refuses to acknowledge, it is precisely the right to control "use" of the program by end users-in this case, their right to use the program in connection with Borland's product-that Lotus seeks to obtain without having shown its entitlement to patent.

FN38. See, e.g., Beedle v. Bennett, 122 U.S. 71, 78 (1887); Coakwell v. United States, 372 F.2d 508, 510-11 (Ct.Cl.1967).

FN39. See, e.g., In re Hayes Microcomputer Prods. Patent Litig., 982 F.2d 1527 (Fed.Cir.1992) (patent for controlling the mode of operation of a modem, or device to allow two computers to communicate over telephone lines, valid and infringed).

B. Baker v. Selden and its Progeny Have Rejected the Use of Copyright to Circumvent the Requirements of the Patent Statute.

The central features of the balance that Congress has struck regarding patentability-a high bar to obtain a monopoly, and free use of that which falls below the bar-plainly are jeopardized if patent-like protection can be obtained through copyright without meeting any requirement other than "originality." Lotus has sought to minimize the significance of this disruption by suggesting that it happens all the time. Thus, Lotus has emphasized that copyright protection traditionally has been available for "useful" works such as maps, charts, and dictionaries. Lotus Br. at 24.

It is certainly true that these works are "useful" insofar as a map helps us to get from place to place, a dictionary helps us to know the meaning of words, and a telephone book helps us to *27 make telephone calls. The "usefulness" of such works does not, however, advance Lotus' claim that copyright protects the functional aspects of a work. The distinction is illustrated in the present Copyright Act's definition in Section 101 of "useful article": a "useful article" is an article "having an intrinsic utilitarian function that is not merely to portray the

appearance of the article or to convey information." Maps, dictionaries, and telephone books, though "useful," are not "useful articles," because they "merely ... convey information."

Lotus' menu command hierarchy, by contrast, has "an intrinsic utilitarian function"-the words are commands that cause operations to be performed. [FN40] The question of how to treat works that have such an intrinsic utilitarian function is not a new one. To the contrary, it lies at the heart of Baker v. Selden and its progeny.

FN40. See, e.g., Borland II at 206-207, Pet.App. 110a ("The keystroke sequences and macro language have functionality. Typing ("inputting," in jargon) the first character of a command word invokes the command and causes the operation associated with the command word to be performed.... The menu command hierarchy is a fundamental part of the functionality of keystroke sequences and the macro language."); Borland IV at 231, Pet. App. 41a (what Lotus seeks to protect is the "selection and arrangement of executable operations").

1. The Court's Baker v. Selden Decision

In Baker, Selden had written a book that explained a particular system of bookkeeping, and had included a series of forms, consisting of ruled lines and headings, that illustrated the system and showed how it was to be used in practice. 101 U.S. at 100. Selden urged that "the ruled lines and headings, given to illustrate the system, are a part of the book and, as such, are secured by the copyright." Id. at 101. Like Lotus, Selden argued that his work was "useful," and referred the Court to copyright's traditional protection of maps and charts. Baker, 25 L.Ed 841, 842 (argument of appellee). Also like Lotus, Selden contended that his copyright in the book gave him the right to prevent others from "using substantially the same ruled lines and headings which he has appended to his books in illustration of it." 101 U.S. at 101.

The Court rejected Selden's claim. The Court agreed that Selden had a lawful copyright in the book he wrote explaining his *28 accounting system. Id. at 102. Selden's copyright, however, did not give him exclusive rights to the use of his forms. The reason lay in "the difference between the two things, letters patent and copyright." Id. The Court gave the example of the author of a book on perspective who failed to get a patent on the mode of drawing described in the book. The author could not prevent others from using the mode of drawing that the book described, even if the book's illustrations "are reproduced in practice in the application of the art." Id. at 103.

As the Court emphasized, to allow the copyright in a book to extend to the methods that it illustrates would be fundamentally at odds with the patent law. Selden might or might not have been able to obtain a patent in his system; however, "it was not patented, and [now] is open and free to the use of the public." Id. at 104. The Court explained, id. at 102, in reasoning that foreshadows Bonito Boats: The copyright of the book, if not pirated from other works, would be valid without regard to the novelty or want of novelty of its subject-matter. The novelty of the art or thing described or explained has nothing to do with the validity of the copyright. To give to the author of the book an exclusive property in the art described therein, when no examination of its novelty has ever been officially made, would be a surprise and a fraud upon the public. That is the province of letters patent, not of copyright. The claim to an invention or discovery of an art or manufacture must be subjected to the examination of the Patent Office before an exclusive right therein can be obtained; and it can only be secured by a patent from the government.

The decision in Baker v. Selden thus did not, as Lotus contends, exclude only "ideas" from the scope of copyright protection. Baker was free to use not only Selden's ideas, but his forms as well: as Professor Kaplan has observed, "the [Baker] privilege

extends to exact copies." Benjamin Kaplan, AN UNHURRIED VIEW *29 OF COPYRIGHT 64 (1967). [FN41] Under Baker, there is not just one delimiting concept by which the boundaries of copyright protection are set. Rather, there are two: the exclusion of ideas, and the exclusion of matter more properly the subject of patent.

FN41. Indeed, the Court's holding on the matter would seem to be unambiguous. The Court held, 101 U.S. at 107 (emphasis added): "The conclusion to which we have come is that blank account-books are not the subject of copyright; and that the mere copyright of Selden's book did not confer upon him the exclusive right to make and use account-books, ruled and arranged as designated by him and described and illustrated in said book."

Lotus nonetheless has urged that the case should be read as turning on the extent of the similarities between Baker's Selden's forms; according to Lotus, Baker would have been found to have infringed if he had copied Selden's forms more closely. Lotus Br. at 34-36. The Court's decision, however, cannot be squared with Lotus' analysis. Indeed, Lotus has had to rely on facts outside the opinion even to make the argument, because one cannot tell how closely Baker followed Selden from the decision itself. It simply was not a focus of the Court's analysis: the Court was concerned with Selden's words, not with Baker's, and with Selden's ability to monopolize his system by monopolizing the forms. Lotus' analysis would render the Court's analysis of the distinction between patent and copyright superfluous, and simply cannot be reconciled with many portions of the opinion. See, e.g., id. at 103 (copyright "cannot give to the author an exclusive right to the methods of operation which he propounds, or to the diagrams which he employs to explain them, so as to

prevent an engineer from using them whenever occasion requires").

2. Cases following Baker v. Selden

In the century since Baker v. Selden, courts routinely have declined to extend copyright protection to matter that falls within the scope of the useful arts. [FN42] In Taylor Instrument Cos. v. Fawley-Brost Co., 139 F.2d 98 (7th Cir.1943), cert. denied, 321 U.S. 785 (1944), for example, the plaintiff manufactured a paper chart that provided a graphical record of hourly temperature when used in conjunction with the plaintiff's writing machine. The defendant manufactured paper charts that copied the defendant's arced and *30 circular lines in order to make them "compatible" with the defendant's machine. Applying Baker v. Selden, the court concluded that the chart "neither teaches nor explains the use of the art. It is an essential element of the machine; it is the art itself." Id. at 100. As such, it was properly protected, if at all, by obtaining a utility patent.

FN42. See, e.g., Brief English Sys., Inc. v. Owen, 48 F.2d 555, 556 (2d Cir.1931) (copyright does not provide exclusive right to use system of shorthand; "the way to obtain the exclusive property right to an art, as distinguished from a description of the art, is by letters patent and not by copyright"), cert. denied, 283 U.S. 858 (1931). See also Crume v. Pacific Mul. Life Ins. Co., 140 F.2d 182 (7th Cir.1944) (method of business reorganization), cert. denied, 322 U.S. 755 (1944); Affiliated Enters. v. Gruber, 86 F.2d 958 (1st Cir.1936) (promotional system).

Lotus nonetheless has contended that this aspect of Baker v. Selden and its progeny was reversed by the Court in Mazer v. Stein, 347 U.S. 201 (1954). See Lotus Br. at 25. The Mazer decision, however, does not support Lotus' claim. The question presented in Mazer was whether there could be overlap between the copyright law and design patents,

which reward creators for their "ornamental design[s]." 347 U.S. at 216. As Mazer found, overlap between design patents and copyright long has been recognized by the courts. Id. at 215 n. 33. Indeed, in Baker v. Selden itself, the Court expressly stated that "[o]f course, these observations are not intended to apply to ornamental designs." 101 U.S. at 103. The Court recognized that with ornamental designs, as with copyrighted works, "their form is their essence"; allowing a monopoly in such ornamental features accordingly imposed no undue cost on the public. Id.

As Mazer expressly recognized, a different result has obtained, beginning with Baker itself, in cases dealing with utility patents. Thus, Mazer noted that while courts had found an area of overlap between design patents and copyright, "a different answer has been given by the courts" with respect to "the mechanical patent law and copyright laws." 347 U.S. at 215 n. 33. Of the two cases cited with approval by the Court for this point, one was the Taylor Instrument case. Thus, far from providing support for Lotus' theory of overlap, Mazer reconfirmed the continuing vitality of Baker v. Selden's distinction between patent and copyright. Selden's forms and Taylor's charts were not outside of copyright protection because they were "ideas," but because they were within the province of the "useful arts," and the extension of protection to these works would have undermined the patent regime.

*31 C. Section 102(b) Incorporates the Limitation on Copyright Protection For Utilitarian Functions.

According to Lotus, Section 102(b) was intended to do no more than exclude "idea[s]" from the scope of copyright protection. Invoking the principle of noscitur a sociis, Lotus contends that the seven words listed after "idea" in the statute are "undifferentiated," or, in plainer English, redundant. Lotus reasons that "process[es]" or "method[s] of operation" could be construed so broadly as to cover computer programs themselves; that Congress intended for computer programs to be copyrightable; and that accordingly these terms (and the

remaining terms of Section 102(b)) should not be given any independent meaning whatsoever. Lotus Br. at 29-30. Lotus urges that when the Court reads "method of operation," it should substitute "idea" instead. Id. at 29. [FN43]

FN43. This argument also is central to the two amicus briefs filed on Lotus' behalf. See Brief Amicus Curiae of American Intellectual Property Law Association at 8 n. 10 (Section 102(b) terms are used "interchangeably"); Amicus Curiae Brief of Digital Equipment Corporation, The Gates Rubber Company, Intel Corporation and Xerox Corporation at 10 n. 8 ("unless the context dictates otherwise," the amici would "refer to all of the categories of unprotectable matter listed in Section 102(b) collectively as ideas").

The drastic surgery that Lotus proposes in interpreting Section 102(b) is unwarranted. Generally, of course, the Court "will avoid a reading which renders some words altogether redundant." Gustafson v. Alloyd Co., Inc., 115 S. Ct. 1061, 1069 (1995). Here, the remaining words of Section 102(b) are neither obscure nor redundant: they are drawn directly from the patent law. Moreover, the legislative history shows that they were central to the limits that Congress sought to impose on the scope of copyright protection for computer programs. Far from being awkward surplusage, therefore, they are critical to ascertaining the boundaries on copyright protection of computer programs under Section 102(b).

1. The Terms in Section 102(b) are Drawn From the Patent Law.

In invoking noscitur a sociis, Lotus may seem to suggest that "process" and "method of operation" are words "of obscure or *32 doubtful meaning." Russell Motor Car Co. v. United States, 261 U.S. 514, 520 (1923). Nothing, however, could be further from the truth. As noted previously, the patent statutes commencing in 1793 all extended protec-

tion to any "new and useful art." Chakrabarty, 447 U.S. at 308-09. In 1952, when the patent laws were recodified, Congress made one change to Jefferson's language: it replaced the word "art" with "process." Id. at 309. "Process" thus lies at the very heart of the patent statute; and, if one were to carry forward Baker v. Selden's exclusion from copyright of the "useful arts," the way to express that in the present-day language of the patent laws is to use the term "process." [FN44]

FN44. See 35 U.S.C. § 101 (1995). Although only recently codified, "process" and "useful art" have been treated as largely equivalent terms in the patent law for many decades. See, e.g., Expanded Metal Co. v. Bradford, 214 U.S. 366, 382 (1909) ("The inventor of a new and useful art is distinctly entitled to the benefit of the statute as well as he who invents a machine, manufacture, or composition of matter. The word 'process' has been brought into the decisions because it is supposedly an equivalent form of expression, or included in the statutory designation of a new and useful art.").

The patent-law derivation of the terms "method of operation," and "system" is no more difficult to find. Both "method of operation" and "system" were used in Baker v. Selden to describe that which "is the province of letters patent, not of copyright." See 101 U.S. at 102-104. [FN45] Indeed, since Baker v. Selden, copyright cases often have used the term "system" to describe matter that *33 falls within the ambit of patent rather than copyright. See, e.g., Affiliated Enters. v. Gruber, 86 F.2d 958 (1st Cir.1936) (promotional system); Brief English, 48 F.2d at 556 (system of shorthand); Amberg File & Index Co. v. Shea Smith & Co., 82 F. 314, 315 (7th Cir.1897) (indexing system); Griggs v. Perrin, 49 F. 15 (C.C.N.D.N.Y.1892) (shorthand system). In employing the term, Congress plainly intended to ratify and codify the line drawn in these cases. See Davis v. Michigan Dept. of Treasury, 489 U.S.

803, 813 (1989).

FN45. The terms "process" and "method" often are used interchangeably in the patent law. See, e.g., 35 U.S.C. § 100(b) (1995) ("The term 'process' means process, art or method"). Methods "of operation," however, may be considered to have a more specific meaning, as reflected in the Court's decision in Expanded Metal, 214 U.S. at 382. Prior to Expanded Metal, it had been unresolved, as counsel in that case put it, whether "processes involving mechanical operations, as distinguished from chemical reactions or elementary changes, are unpatentable." Expanded Metal, 53 L.Ed. 1034, 1035. After Expanded Metal upheld their patentability, such method claims often have been described as a method "of operating" a particular machine. See, e.g., Application of Moreton, 288 F.2d 708, 709 (C.C.P.A.1961) (claim for a "method of operating the hydraulic system of an aircraft"); Application of Horvath. 211 F.2d 604. 606 (C.C.P.A.1954) (claim for a "method of timing succeeding toaster operations"); Application of Schutt, 210 F.2d 293, 294 (C.C.P.A.1954) (claim for a "method of operating a continuously cycling automatic concrete block machine").

The derivation of "discovery" is, if anything, even more apparent: the term can be found in the Patent and Copyright Clause itself, in the portion of the Clause for which Lotus has substituted an ellipsis. As noted earlier, the Clause authorizes Congress to protect "inventors" in their "discoveries." Art. I, § 8, cl. 8. It would seem that Congress could not have put any more emphatically its intent to maintain the line between patent and copyright. The term "principle" also may be found to have roots in the patent law. Indeed, "principle" long has been used as the patent equivalent of "ideas," for which no patent can be obtained. See e.g., LeRoy v. Tatham,

55 U.S. 156, 174-175 (1852) ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right").

The derivation of "concept" and "procedure" is more obscure. The ordinary meaning of "concept" is an "abstract or generic idea," and the legislative history suggests that the term was intended to have that meaning. [FN46] See S. REP. No. 983, 93d Cong., 2d Sess. 107-108 (1974) (in earlier version of proposed Section 102(b) which excluded "plans," "plans" were "distinguished from ... the mental concept"). No patent can be obtained for a "concept" lacking a physical embodiment. See, e.g., Voightmann v. Perkinson, 138 F. 56, 57 (7th Cir.1905); Application of Hortman, 264 F.2d 911, 913 (Cust. & Pat. App. 1959). A "procedure" in ordinary use means "a particular way of accomplishing something or of acting," or "a series of steps followed in a regular definite order," *34 WEB-STER'S, supra at 937, and it appears to have been used in that way in patent cases, either in describing steps in a process or method or sometimes as the equivalent of "process" itself. [FN47]

> FN46. WEBSTER'S NINTH NEW COL-LEGIATE. DICTIONARY 272 (9th ed. 1988) ("WEBSTER'S").

> FN47. See, e.g., Saranac Automatic Mach. Corp. v. Wirebounds Patents Co., 282 U.S. 704, 708, 715 (1931); Graver Tank & Mfg. Co., Inc. v. Linde Air Prods. Co., 336 U.S. 271, 278 (1949); U.S. Indus. Chems., Inc. v. Carbide & Carbon Chems. Corp., 315 U.S. 668, 676-77 (1942); Application of Drummond, 302 F.2d 761, (C.C.P.A.1962); Application of Orsini, 158 F.2d 286, 287 (C.C.P.A.1946); Raffold Process Corp. v. Castanea Paper Co., 98 F.2d 355, 358-359 (3d Cir.), cert. denied, 305 U.S. 635 (1938).

> During the time that the copyright revision legislation was pending, the Court handed down its decision in Gottschalk v. Benson,

409 U.S. 63 (1972). In Gottschalk, the Court specifically used the term "procedure" in its definition of an algorithm. See 409 U.S. at 65 ("A procedure for solving a given type of mathematical problem is known as an 'algorithm'"). At the time Section 102(b) was enacted in 1976, therefore, "procedure" might have been understood as applying, inter alia, to unpatentable algorithms. See also id. at 67 ("abstract intellectual concepts" are not patentable).

In short, the terms in Section 102(b) are far from "undifferentiated." They establish, by their terms, Congress' clear intent that copyright should not be permitted to substitute for or interfere with the subject matter of patent-both that which is unpatentable, such as principles, and that which is, such as processes and methods of operation. Indeed, in attempting to lump these terms together as undifferentiated "ideas," Lotus would undo much of patent law, in which the distinction between "processes" (or "methods of operation") and "ideas" (or "principles") is as central as the distinction between "expression" and "ideas" is to copyright. See, e.g., Diamond v. Diehr, 450 U.S. 175, 182-185 (1981) (contrasting patentable "processes" with unpatentable "ideas"). "Process" and "method of operation" for these purposes are the opposite of "ideas"-a fact of which Congress plainly was aware. [FN48]

FN48. See Copyright Law Revision: Hearings Before the Subcomm. on Courts, Civil Liberties, and the Admin. of Justice of the House Comm. on the Judiciary, 94th Cong., 1st Sess. 2223 (1975) (proposal by Computer & Business Equipment Manufacturers Association to excise "plan, procedure, process, system, method of operation," leaving "idea, concept, principle, or discovery" as uncopyrightable subject matter); id. at 334 (proposal by Information Industry Association to amend 102(b) to

allow protection for a "collection of ideas or abstractions arbitrarily selected from a plurality of alternative ideas or abstractions or in a discretionary pattern of events or processes").

*35 Nor do the terms in Section 102(b) denote mere "abstractions," as the district court suggested. Borland I at 91, Pet. App. 167a. The line between what is copyrightable and what is not has never been drawn at the point at which words are first attached to abstract thought. But see id. "Expression" in the copyright law has regularly been construed to include "abstractions" such as the detailed aspects of the plot of a play, [FN49] while at the same time the textual labels on Selden's forms were held not to be protected. Similarly, some of the § 102(b) words from the patent law denote what the district court referred to as an "abstraction" (e.g., "principle"); the disclosure of the "best mode" for a patent claim covering Lotus' method of operation, however, would doubtless cover the words themselves. 35 U.S.C. § 112 (1995).

FN49. See, e.g., Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir.1930), cert. denied, 282 U.S. 902 (1931); Kouf v. Wait Disney Pictures & Television, 16 F.3d 1042, 1045 (9th Cir.1994) (comparing similarities of ideas and expressions in two works, with "plot" as an expressive element).

2. A "Computer Program" is not a "Process" or "Method of Operation."

Lotus seems to argue that, even if the terms of Section 102(b) have a plain meaning under the patent laws, they should not be given that meaning because to do so would be inconsistent with Congress' intent to extend protection to computer programs. Lotus Br. at 29-30. The legislative history, however, shows that Congress saw no such conflict. Indeed, it is evident that the exclusion of "processes" and "methods of operation" in Section 102(b) was meant specifically to limit the protec-

tion afforded to computer programs. Thus, the House Report states that Section 102(b) was intended, among other things, to make clear that the "processes or methods embodied in the [computer] program are not within the scope of copyright law." H.R. REP. 1476 at 57 (emphasis added).

*36 The House Report indicates that Section 102(b) was enacted in part in response to "some concern [that] has been expressed" regarding the protection of program processes and methods. Id. This concern was voiced principally during hearings before the Senate Subcommittee in 1967 on a predecessor revision bill, S.597. During these hearings, the report of the Interuniversity Communications Council (more commonly referred to as EDUCOM), particularly cautioned that extending copyright protection to a program's "process" would "amount to giving programs a breadth of protection similar to that accorded by patent, but without the safeguards and limitations that rightly surround the grant of a patent." Copyright Law Revision: Hearings Before the Subcomm. on Patents, Trademarks, and Copyrights of the Senate Comm. on The Judiciary, 90th Cong., 1st Sess. 572 (1967). EDUCOM concluded that copyright protection could be applied to computer programs, but only if narrowly cabined, id. (emphasis added): $\stackrel{\text{$[FN50]}}{}$

> FN50. It appears that the EDUCOM report and its ensuing recommendations may have been a source of what ultimately became Section 102(b). During EDUCOM's oral presentation, the chairman of the Senate subcommittee asked EDUCOM to propose language that would solve its concerns. Id. at 562, 565. EDUCOM reported back with two proposals, one of which would have amended Section 106 relating to the rights of copyright owners as follows: "Provided, however, that nothing in this title shall be construed to give the owner of copyright the exclusive right to any idea, process, plan, or scheme embodied or described in the copyrighted work

..." Id. at 1059.

S. 597 ultimately was not reported out of subcommittee. The next session, however, a nearly identical bill, S. 543 (91st Cong.), was reported to the Judiciary Committee with the addition of a proposed new Section 102(b). This amendment, which appears to be based in part on the EDUCOM proposal, is identical to the enacted version of Section 102(b) except for the inclusion in the bill of the word "plan." See 1 KAM-INSTEIN LEGISLATIVE HISTORY PROJECT 41-42 (1981), citing S. Rep. No. 1219, 91st Cong., 2d Sess. (1970) (Committee Print).

If the process embodied in a computer program ought not to be aggrandized through copyright, it might still seem plausible to allow a narrower copyright-one that would confer upon the copyright proprietor the exclusive right to replicate the instructions themselves ... But it becomes evident that this right must be carefully circumscribed.

*37 The same distinction was drawn in the Final Report of the National Commission on New Technological Uses of Copyrighted Works (1978) ("CONTU Report"), which recommended the changes enacted in the 1980 Software Amendments. The Report assured Congress that the line between programs and processes remained intact. Accordingly, "one is always free to make a machine perform any conceivable process (in the absence of a patent)." Id. at 20. The only program elements identified as protected by copyright were the programmer's writings: the source code, the object code into which it was translated, and possibly the programmer's flow charts (perhaps as a pictorial or graphic work). Id. at 21 & n. 109.

For more than a century, Baker v. Selden and its progeny have held that copyright protection should not be allowed to intrude upon and disrupt the careful balance that has been struck under the patent laws concerning when to allow a private monopoly

in the "useful arts." Legislating against that background, Congress codified that line of decisions in Section 102(b), and exhibited particular concern that copyright protection for computer programs not be used to undermine the patent regime. In excluding "ideas" from copyright protection under Section 102(b), Congress sought to ensure that authors were not given too broad a monopoly relative to other authors; [FN51] but in excluding "processes" and "methods" from Section 102(b), Congress also has sought to ensure that authors, by using copyright to avoid the restrictions of the patent law, cannot obtain an unwarranted monopoly relative to inventors. As Bonito Boats teaches, to allow an inventor to circumvent these restrictions, and obtain a monopoly on an unpatented utilitarian work through the simple expedient of calling itself an "author," is to jeopardize the integrity of the patent system as a whole.

FN51. Feist, 499 U.S. at 349-50 (the idea/expression distinction is intended to ensure that an author is not overcompensated relative to later authors, by "assur[ing] authors the right to their original expression, but encourag[ing] others to build freely upon the ideas and information conveyed by a work"). See generally William M. Landes and Richard A. Posner, An Economic Analysis of Copyright Law, 18 J. OF LEGAL STUD. 325, 333 (1989) (the copyright law's dichotomy between idea and expression can be understood as an attempt to promote economic efficiency by preventing overcompensation).

*38 II.

LOTUS' MENU COMMAND HIERARCHY IS UNPROTECTED UNDER SECTION 102(B) OF THE COPYRIGHT ACT.

In its report to Congress, CONTU noted that the distinction between the protected elements of a computer program and those excluded as "processes" or "methods of operation" would not

always "shimmer with clarity." CONTU Report at 18. Nonetheless, CONTU advised Congress that "[t]o attempt to establish such a line in this report written in 1978 would be futile." Id. at 22. CONTU accordingly advised Congress that "[s]hould a line need to be drawn to exclude certain manifestations of programs from copyright, that line should be drawn on a case-by-case basis by the institution designed to make fine distinctions-the federal judiciary." Id. at 22-23.

Ironically, Lotus now chastises the Court of Appeals for making precisely such a determination, on the ground that the line already has been drawn by Congress. Lotus Br. at 45-49. In fact, however, the Court of Appeals was acting in accordance not only with what Congress expected, but what the Constitution and this Court have required. This Court repeatedly has stressed that the purpose of the copyright laws is not to "maximiz[e] the number of meritorious suits for copyright infringement," but rather to "enrich[] the general public through access to creative works." Fogerty, 114 S. Ct. at 1029. To justify what the Court has referred to in the patent context as the "embarrassment" of a private monopoly, Bonito Boats, 489 U.S. at 148, the copyright law must encourage and reward authors, but only insofar as it "serve [s] the cause of promoting broad public availability of literature, music, and the other arts." Fogerty, 114 S. Ct. at 1029, quoting Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975). Where the literal terms of the statute are ambiguous, the Copyright Act must be construed in light of this basic purpose. [FN52]

FN52. Twentieth Century Music Corp, 422 U.S. at 156; Sony, 464 U.S. at 432. Cf. Graham, 383 U.S. at 5 ("the Congress in the exercise of the patent power may not overreach the restraints imposed by the stated constitutional purpose").

*39 A. The Lotus Menu Command Hierarchy is Not a "Computer Program" Under Section 101.

Much of Lotus' brief rests on the proposition that

the menu command hierarchy is a "computer program" (or a portion of one) within the meaning of Section 101. Section 101 defines a computer program as "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." 17 U.S.C. § 101 (1995). Lotus argues that not just the 1-2-3 program's code, but the menu command hierarchy itself, "fits" this definition, in that it could be described as a "set of statements or instructions" that can be used in a computer to accomplish "a certain result." Lotus Br. at 30. Alternatively, Lotus suggests that the command hierarchy is part of the "computer program" because it "is generated by the statements contained in the program's 'source code.' "Id. at 7.

Lotus' initial argument-that the menu command hierarchy generated by the 1-2-3 program is itself another "computer program"-is not consistent with the ordinary way in which the term "computer program" is used. Indeed, Lotus does not claim that it is. Users looking at the command words and other symbols arrayed on a computer screen would not describe these figures as a "computer program," but rather as the means for accessing a computer program. Similarly, the CONTU Report that recommended the definition of "computer program" adopted in Section 101 never remotely suggested that the definition that it proposed would extend to portions of a screen display. Rather, the CONTU Report uses "computer program" in the way that it is customarily used: to describe source code and object code. [FN53]

FN53. See CONTU Report at 21 n. 109 (identifying source code and object code as "programs"); see also CONTU Transcript of Sept. 15, 1977 CONTU meeting at 78 (explaining that phrase "directly or indirectly" is used in the definition of "computer program" because of intent to cover both object code and source code). The CONTU Report is ambiguous as to whether "flow charts," which are used by

programmers to diagram the program's sequence of steps before actually writing the code, also might be protected as graphical works. See CONTU Report at 21 & n. 109.

*40 It is true that the Lotus menu commands may be described as a program language, [FN54] but that only serves to highlight the way in which it differs from a computer program. Lotus' own brief emphasizes that it is only after a user combines "an entire sequence of keystrokes" that the computer will "actually perform an operation"-in other words, will "bring about a certain result." See Lotus Br. at 8-9. Lotus describes the entry of each such "sequence of keystrokes" as "an instruction." Id. A set of such keystroke sequences, in turn, would seem to fit the language of Section 101, which requires "a set of statements or instructions." That is how Lotus' users' manual defines a "macro": it is a "set of instructions" made up of "a sequence of keystrokes and commands." 1-2-3 Ref. at 166.

FN54. See, e.g., Borland II at 206, Pet.App. 109a (describing the use of keystroke sequences as a "macro language.

A "macro" thus may be a "set of statements or instructions," i.e., a "computer program," but the menu command hierarchy is not. Until the user enters the keystrokes in a combination that will cause the computer to perform an operation, there has not been the entry of a "set" of instructions that will cause the computer to "bring about a certain result." Indeed, as Lotus itself insists, until the user enters a keystroke sequence into the computer, there has not been even a single "instruction." Lotus Br. at 8. The menu commands thus may provide the building blocks from which a "computer program" can be built; but the creative effort that transforms these building blocks into a computer program is provided by the user, not by Lotus. [FN55]

FN55. The importance of the requirement of a set or series of instructions is borne out in the ordinary dictionary definition of a computer program. See, e.g., WEB-STER'S, supra at 940 ("program" defined as "a sequence of coded instructions that can be inserted into a mechanism (as a computer)"). More specialized dictionaries also are to the same effect. See, e.g., IBM DICTIONARY OF COMPUTING, 131 (10th ed. 1993) (a "computer program" is "[a] sequence of instructions suitable for processing by a computer"); MICROSOFT PRESS COMPUTER DICTIONARY 90 (2d ed. 1994) (a "computer program" is "[a] set of instructions in some computer language, intended to be executed on a computer to perform a useful task.

Lotus' alternative argument for coming within the definition of "computer program" under Section 101 is that the menu command hierarchy is a part of the program because it is "generated" *41 by the program. Lotus Br. at 7. This is not an argument on which Lotus has rested much weight, and with good reason. As Lotus' own brief attests, the 1-2-3 "statements" to the computer are "contained in the program's 'source code,' " and the menu command hierarchy is "generated" by those statements. Id. [FN56] In the language of Section 101, the source code is the "set of statements or instructions" that constitutes the "computer program"; the menu command hierarchy (as well as the rest of the screen display) that it generates is the "certain result."

FN56. See also Borland II at 209, Pet.App. 114a ("The menu command hierarchy is part of the 1-2-3 program's output.").

FN57. See also 1 Paul Goldstein, COPY-RIGHT § 2.15.3.1, at 2:200, 2:202 (2d ed. 1996) (The suggestion that copyright in the computer program would extend to the screen display would "dramatically depart" from the statutory definition of computer programs. Accordingly, "[c]opyright in a computer program that produces certain screen displays will protect the program

but will not prohibit a competitor from independently designing a program that produces the same screen displays."). If the language of the statute were in any way ambiguous, this interpretation would be confirmed by the CONTU Final Report. The report made it clear that copyright protection for the computer program was to be determined entirely apart from the question of copyright protection for the output or "certain results" generated by the program. See CONTU Report at 21. The results generated by the program thus have to qualify separately for copyright protection; their status does not affect the program's copyright.

The question of copyright protection for the screen display generated by the 1-2-3 program must be assessed independently from Lotus' copyright in the program itself. Lotus' argument regarding the intended breadth of protection for computer programs, see, e.g., Lotus Br. at 30-31, accordingly is irrelevant. It is as part of the 1-2-3 screen display, or as part of the Lotus users' manual, that the menu command hierarchy must be a protected element; it is not part of the 1-2-3 "computer program" within the meaning of Section 101 and 102(a).

B. The Menu Command Hierarchy is an Unprotected Element of the Lotus Users' Manual and the Lotus Screen Display.

Lotus has contended, somewhat cynically, that "[w]ere these words fixed upon a series of printed pages, instead of appearing on *42 a computer screen, there could hardly be a question that they would be protected by copyright." Lotus Br. at 17. In fact, however, the words are fixed upon a series of printed pages-the pages of the Lotus users' manual (and dozens of other books about 1-2-3 as well). Whether as part of Lotus' users' manual, however, or as part of the Lotus screen display, the Lotus menu command hierarchy is unprotected; it is a system or method of operation under Section 102(b).

1. The Lotus Reference Manual

Just as Selden prepared a book for users of his copyright system, Lotus has prepared a book for users of the 1-2-3 program. In the 1985 version of Lotus' manual, 138 pages are devoted to explaining the functions performed by different menu commands; another 60 explain how to use the commands to build macros. I-2-3 Ref. at 28-217 (Dkt.158) [Dkt. 164, JA 78-79]. At the beginning of the chapter committed to menu commands, there is a "functional summary" that lists approximately 150 commands, with a one-line description of the tasks that each command performs. Id. at 28-37. The summary illustrates that the Lotus menu commands are not a "structured dialogue" with the user. Rather, the command combinations simply are listed ("/Range Format Text") with a description of the operation they perform ("display formulas instead of values"). Id. at 29. The summary is not even organized by hierarchy commands, but by user interest.

Nothing could be clearer from Lotus' users' manual than that the menu commands do not illustrate or explain the method of operation-they are the method of operation. $[FN58] \\ \text{All of the terms used to ex-}$ plain the menu commands are unambiguously functional: the Range commands "manipulate" ranges of cells, id. at 62; the File commands "save" worksheets, id. at 86, and so forth. Lotus cites the District Court's conclusion that there were "expressive" elements to the commands and their arrangement, Lotus Br. at 41, but it does not explain, much less defend, the District Court's *43 rationale in reaching this conclusion. The District Court found the command hierarchy "expressive" because a "satisfactory spreadsheet menu tree can be constructed using different commands and a different command structure." Borland II at 217, Pet.App. 130a. The fact that there is more than one way to achieve a particular function, however, is pertinent to the question whether the system can be patented, not whether it is the proper subject of copyright. As any overseas traveler can attest, there are many

seemingly satisfactory ways of arranging the configuration of electrical sockets; yet that does not render the shape of any particular socket an "expression" protectable under copyright.

FN58. Lotus' contention that Borland did not argue below that the command hierarchy is a method of operation, Lotus Br. at 43 n. 65, is belied by the record. Borland 1st Cir. Br. at 39, 50; Borland S.J. Br. at 29-113.

The Court's decision in Baker v. Selden is instructive on this point. The Court did not find that there were only a limited number of ways to practice double-entry bookkeeping; rather, it held that Baker had a right to practice Selden's way. Similarly, although the Court found that Selden's forms were expressive in the sense that they "illustrated his method," 101 U.S. at 104, that did not suffice to render the forms a protected element of Selden's copyright.

2. The Lotus 1-2-3 Screen Display

As the District Court's opinions below reflect, it is difficult to describe the command hierarchy without referring to its functionality, or even without using the specific terms excluded under Section 102(b). See, e.g., Borland IV at 231, Pet.App. 41a (menu tree may be viewed as the "selection and arrangement of the executable operations in Lotus 1-2-3"); Paperback at 65, Pet.App. 229a ("the exact hierarchy-or structure, sequence and organization-of the menu system") (emphasis added). Lotus labors under the same difficulty. Thus, its users' manual describes 1-2-3's commands as "organized into a multi-level menu system." JA 528 (Raburn Decl.) and JA 533-34 (Ex. A) [Dkt. 164, JA 78-79].

Similarly, in Lotus' European patent application for a user interface, it describes a "control hierarchy" as "divid[ing] controls, assign[ing] each control a label, display[ing] the labels according to a design hierarchy, and operat[ing] on the controls according to a functional hierarchy." JA 838. In the language

of patent law, the recited claim is for "a method of providing a plurality of controls." JA 841 (emphasis added). The "method" is comprised of four *44 steps, the last of which is "operating on said controls according to said functional hierarchical groups." Id. (emphasis added). A command hierarchy is, in short, "a method of operati[on]."

The ease with which the menu command hierarchy fits patent terms such as "system" and "method of operation" is not coincidental. Indeed, this case poses squarely the question whether copyright extends to the subject matter of utility patents, because the Patent Office has issued patents on menu command hierarchies like Lotus'. Thus, for example, IBM, Lotus' parent, obtained a patent in 1983 for a "display menu" on a word processing program. JA 856. Similarly, a spreadsheet software maker was able to obtain protection for a system employing a command hierarchy similar to Lotus'. JA 842. S.J. Ex. 15, 16, 23 [Dkt. 164, JA 78-79].

In arguing for overlapping protection, Lotus has identified no ready means by which its proposed interference with patent could be cabined. Indeed, Lotus' effort to distinguish the menu command hierarchy from the Court of Appeals' analogy to the VCR provides a glimpse of just how vast is the subject matter potentially affected by Lotus' rule. Lotus asserts that the most "fundamental" difference between its array of menu commands and the "user interface" of a VCR is that a VCR interface consists of roughly six buttons, whereas the number of commands using the 1-2-3 hierarchy exceeds four hundred. Lotus Br. at 17 n. 27. To begin with, Lotus' distinction is an artificial one. Many users do not operate a VCR just by pushing the VCR's buttons; they also use a remote control that operates through the selection of program-generated menus on the television screen (e.g., to delay-record a television program). Sony VCR Operating Instructions, Ex. 5 to Borland S.J. Br. (Dkt.142) [Dkt. 164, JA 78-79]. Nothing that Lotus has proposed would distinguish its menu command hierarchy from these VCR controls.

More fundamentally, Lotus provides no meaningful conceptual basis why the arrangement of six buttons is not copyrightable, but four hundred buttons is. By Lotus' analysis, the arrangement of buttons on the control panel of a commercial jet certainly would be the subject of copyright. What about the sixty to eighty buttons on a typical computer keyboard? The twenty to thirty buttons on the typical business telephone? Menu command hierarchies generated by software are everywhere: on gasoline pumps, automatic teller machines, photocopy machines. Lotus proposes that manufacturers *45 should be able to obtain a monopoly under copyright on the arrangement of these controls, and force users to learn a new pattern of controls with every different product that they use. From the point of view of "the public good," Fogerty, 114 S. Ct. at 1029, the Court of Appeals aptly summarized such a result with one word: absurd. Lotus v. Borland at 818, Pet.App. 20a. It is no wonder that Lotus' sole amici are four hardware manufacturers who were early entrants (often with dominant market share) in their markets. See Brief Amicus Curiae of Software Forum In Support of Respondent at 13-15.

> FN59. Indeed, Lotus' proposal would directly undermine Congress' intent in establishing examination requirements before a patent can be issued. Prior to the 1836 amendment to the patent laws, the granting of patents-like copyrights today-was a purely ministerial function. With rapid industrialization, however, Congress found that the system had become unworkable. See S. REP. No. 338, 24th Cong., 1st Sess, at 3 (1836) ("The country becomes flooded with patent monopolies, embarrassing to bona fide patentees ... and not less embarrassing to the community generally, in the use of even the most common machinery and long-known improvements in the arts and common manufactures of the country.... Out of this interference and collision of patents and privileges, a great number

of lawsuits arise, which are daily increasing in an alarming degree, onerous to the courts, ruinous to the parties, and injurious to society."). The "interference and collision of privileges" likely to result from Lotus' claim would pose the same threat to efficient economic growth that Congress sought to prevent with the reforms to the patent system in 1836.

Lotus attempts to analyze away the command hierarchy's essential functionality by describing it as a freestanding "literary work" unconnected to the user interface of which it is a part. See Lotus Br. at 22 (the command hierarchy is a "literary work" under Section 102(a)). Compare id. at 7 (the command hierarchy "is part of what is typically called the 'user interface' "). Lotus provides no justification for treating one portion of the Lotus screen display as a discrete "work of authorship," any more than the Court treated the headings and arrangement of words on Selden's forms as a separate work of authorship. In fact, Lotus' approach is highly distorting. By simply ignoring both the remainder of the screen display (such as the long prompts and online help texts), Lotus assumes away the awkward fact that the hierarchy is treated as the matter to be explained, and not the explanation; and by stripping *46 away the menu's words from the "virtual buttons" to which they are attached, Lotus pretends that the case is not as much about machines as any other case about "VCR buttons, automobile gearshifts, or any other type of machine part." Lotus Br. at 17. No amount of wishing, however, will make the command hierarchy into something that it is not. The menu command hierarchy is unprotected as a "system" or "method of operation" under Section 102(b), whether as part of the Lotus users' manual or the Lotus screen display; and it does not become transformed into something else by considering it a separate literary work under Section 102(a).

C. Even if Part of the Computer Program for Purposes of Section 102(a), the Menu Command Hier-

archy is an Unprotected Method of Operation under Section 102(b).

The command hierarchy would be excluded matter under Section 102(b) even if the work of authorship under Section 102(a) were the Lotus "computer program" itself. [FN60] Lotus does not seriously dispute that the menu command hierarchy can be described as the "method of operating" the 1-2-3 program. Indeed, it is difficult to imagine what the method of operating 1-2-3 would be if it is not through use of the command hierarchy. In the video that Lotus prepared in connection with the summary judgment phase of proceedings in the District Court, its spokesman referred repeatedly to "using the menus" to "perform operations." See Dkt. No. 127 [Dkt. 164, JA 78-79] (Borland Response Video containing *47 excerpts from Lotus video, copies of which are on file in the clerk's office).

> FN60. Lotus has argued that computer programs "enjoy copyright protection under the same principles governing other forms of original expression in literary works." Lotus Br. at 31. Compare Kenneth A. Liebman, et al., Back to Basics: A Critique of the Emerging Judicial Analysis of the Outer Limits of Computer Program "Expression," 2 COMPUTER LAW., Dec. 1985, at 1, 8 (quoting Prof. Miller) (The end purpose of a computer program is to achieve a utilitarian result, i.e., the computer's performance of logical operations in a way that produces the desired practical consequence. One cannot compare, therefore, the underlying processes of a computer program with, say, the underlying plot structure of a novel or a screenplay of a movie. This, of course, is the distinction recognized by the Supreme Court long ago in the seminal decision of Baker v. Selden.").

Lotus nevertheless argues that if "method of operation" is used in this patent-law sense, then by analogy the computer program would also be the "method of operation" of the computer, a result inconsistent with Congress' intent to protect computer programs. Lotus Br. at 43. In fact, however, at the time of the enactment of the Copyright Act in 1976, it appeared that source code and object code might fall in the gap between patent and copyright, and not be protected by either regime. In closing this gap, the copyright laws appeared well-suited to the task. On the one hand, as the CONTU Report makes amply clear, the industry's concern was with software piracy-the literal copying of a disk and sale of the copy for a cheaper price. See, e.g., CONTU Report at 10-11, 22-23. Copyright was well-suited to protect against such literal copying: the model developed to prohibit the unauthorized duplication of books and sound recordings could readily be applied to the unauthorized duplication of floppy disks. See id. at 10-11. On the other hand, such protection did not appear to pose an unduly chilling effect on later programmers, because there were virtually an "infinite" number of ways of writing programs to achieve the same result, "comparable to the theoretically infinite number of ways of writing Hamlet." Id. at 20 n. 106.

Lotus now proposes to turn this legislation on its head, and obtain a copyright on the one thing that Congress was expressly assured would remain free. The CONTU Report advised Congress that, under the proposed legislation, one was "always free to make the machine do the same thing as it would if it had the copyrighted work placed in it," so long as this result was obtained "by one's own creative effort rather than by piracy." Id. at 21. Indeed, the Report went so far as to advise Congress that, if its use was "necessary to achieve a certain result," a later programmer could even literally copy the program's code. Id. at 20. Accordingly, so long as the later programmer used its own code, "one is always free to make [the computer] perform any conceivable process (in the absence of a patent)." Id.

It is precisely such "certain results" that Lotus now seeks to block by copyright. As has already been pointed out, Lotus does not contend that Borland copied Lotus' source code or object code, *48 or the internal structure of the two programs, at any level of abstraction. Indeed, Lotus did not even put its own code into evidence, a striking testament, one can presume, to the complete dissimilarity of the two programs. Instead, Borland looked at something external to the program-its "certain results"-and developed its own program to achieve those results.

Lotus' proposed monopoly on features external to the program has dramatically different economic consequences than the protection on code contemplated by Congress. One of the unique features of computer programs is that they may be built "on top" of one another, a feature that has been central to the use of computer programs to turn one machine (a computer) into an almost unlimited number of other "virtual" machines (a typewriter; telephone; calculator; and so forth). For programs to work in this way, it is necessary that the programs be able to "plug into" one another, using what are called a program's "interface specification." [FN61]

FN61. See U.S. Congress, Office of Technology Assessment, Finding a Balance: Computer Software, Intellectual Property, and the Challenge of Technological OTA-TCT-527 (Washington, Change, D.C.: Government Printing Office, May 1992) at 126: "Programs have an external design or interface-the conventions for communication between the program and the user or other programs. The external design is conceptually separate from the program code that implements the interface (the internal design). It specifies the interactions between the program and the user or other programs, but not how the program does the required computations. There are typically many different ways of writing a program to implement the same interface."

Allowing a monopoly on a computer program's "interface specification," such as the Lotus menu

command hierarchy, would give the copyright holder a windfall, not only because it profits from users' investment in learning the particular command hierarchy (and resulting reluctance to switch), but because users have invested in developing macro programs "on top of" Lotus' own program. As Judge Boudin succinctly summarized, "it is hard to see why customers who have learned the Lotus menu and devised macros for it should remain captives of Lotus because of an investment in learning made by the users and not by Lotus." Lotus v. Borland at 821, Pet.App. 26a-27a.

A rule allowing a copyright monopoly on the program's "socket" threatens to give the owner enormous market leverage not *49 just in its market-as here, where Lotus can block Borland from creating a product that connects to users' programs-but in other markets as well. An external interface is not unique or even unusual among computer programs, but rather is common at every level, as "applications" programs (such as spreadsheets) connect to "operating systems" programs (such as Windows), and so forth. Indeed, the entire standalone software industry ultimately depends upon the ability of such programs to be "compatible" with-i.e., match the external structure of-the programs that run the computer hardware itself. It is for that reason that all participants in the software industry-users, developers, industry groups, computer scientists-are agreed that Lotus' position, if adopted, would have potentially calamitous consequences for the software industry in the United States.

Such results are a far cry from the limited protection of source and object code enacted by Congress. Menu command hierarchies and computer programs are not the same. As a matter of economics, copyright protection for source and object code blocks only one of a virtually unlimited number of ways of achieving the same "certain results"; copyright protection for these "certain results," such as a menu command hierarchy, potentially creates vast market power likely to chill further innovation. As a matter of Congressional intent, Congress plainly sought to provide copyright protection for source and object

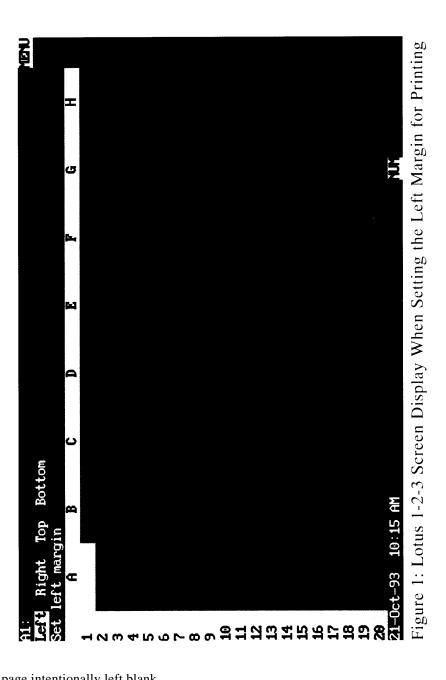
code; and, equally plainly, it sought to leave their "processes" and "methods"-including such "methods of operation" as a menu command hierarchy-free for all to use in the absence of a patent.

Congress' intent to exclude matter such as Lotus' menu command hierarchy seems plain. Even if it were ambiguous, however, this Court repeatedly has exhorted, as noted earlier, that the copyright laws must be interpreted in light of their basic purpose, which is to serve the public good. Twentieth Century Music, 422 U.S. at 156; Sony, 464 U.S. at 432. As the Constitution itself has made clear, intellectual property rights are not free, but are imposed at the expense of the public itself; what may be withdrawn from the public domain for the enjoyment of private monopoly, therefore, has been carefully limited and circumscribed, both under patent and copyright.

*50 If Congress had not spoken, the Court has expressed its reluctance to extend the scope of such monopolies. Here, however, Congress has spoken, at every turn: it has made clear that the copyright laws are not to be used to undermine the integrity of the patent system; and it has equally explicitly made clear that copyright protection for computer programs is to be interpreted narrowly, and consistent with that intent. Lotus' menu command hierarchy is not a "computer program" for purposes of Section 102(a); even if it were an element of a program under Section 102(a), however, it would fall within the scope of matter excluded under Section 102(b). The Court of Appeals' decision is squarely in accord with this Congressional intent, and leaves copyright law in harmony with its Constitutional mandate of promoting the public good-a harmony badly set out of key by Lotus' proposed monopoly. It is accordingly respectfully submitted that the decision should be affirmed.

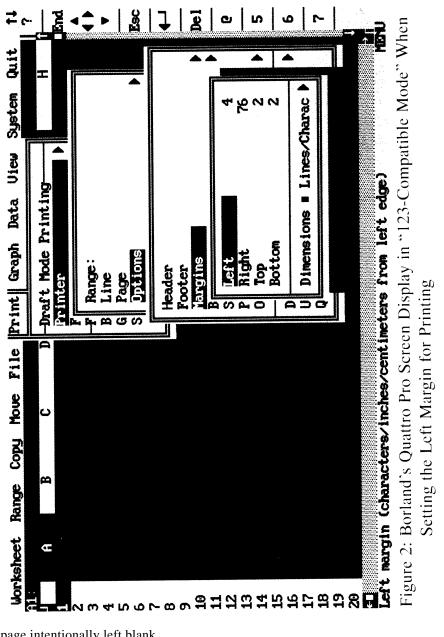
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1995 WL 728538 (U.S.) Page 37



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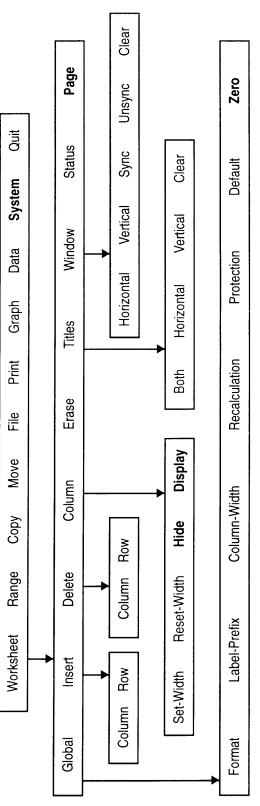
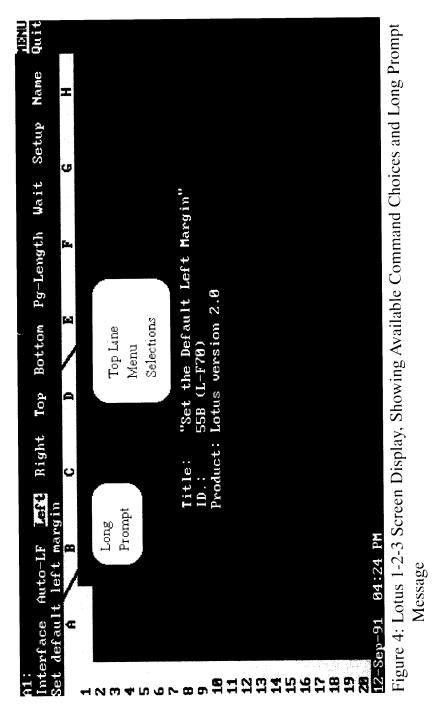


Figure 3: Lotus Command Tree

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1995 WL 728538 (U.S.) Page 40

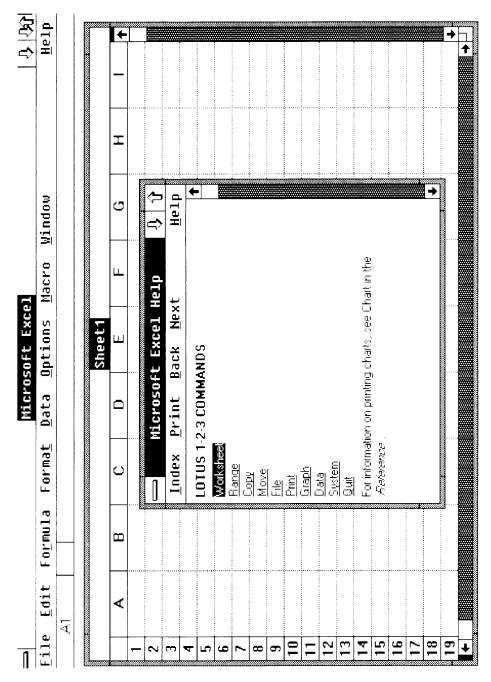


Figure 5: Microsoft's Excel Screen Display, with Lotus Menus, cited by Judge Keeton as Non-Infringing in the Paperback case

Lotus Development Corp, v. Borland Intern,, Inc. 1995 WL 728538 (U.S.) (Appellate Brief)

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MAY 31, 2012 | BY JULIE SAMUELS



No Copyrights on APIs: Judge Defends Interoperability and Innovation

Innovation for the win: A federal judge ruled today that Java's APIs are not copyrightable. The federal district judge in the widely reported *Oracle v. Google* case ruled in favor of innovation and interoperability, allowing software to use Application Programming Interfaces without paying a license fee. Judge Alsup's opinion is important news for software developers and entrepreneurs.

To recap: Oracle, the current owner of Java, sued Google for, among other things, using Java APIs in its Android OS. Oracle claimed that Google infringed both its patents and copyrights. The Court disagreed, and Judge Alsup ruled that "Google and the public were and remain free to write their own implementations to carry out exactly the same functions of all methods in question."

Earlier, the jury summarily disposed of Oracle's patent claims and also found that, assuming one could get a copyright on an API, Google might have infringed (the jury failed to answer whether Google's use was a legal fair use). All of this left open arguably the most important question: whether APIs could be copyrighted. As we previously explained, the answer must be "no" under current law, and extending copyright to APIs would have a disastrous effect on interoperability, and, therefore, innovation. We are glad to report that Judge Alsup agreed.

The court clearly understood that ruling otherwise would have impermissibly – and dangerously – allowed Oracle to tie up "a utilitarian and functional set of symbols," which provides the basis for so much of the innovation and collaboration we all rely on today. Simply, where "there is only one way to declare a given method functionality, [so that] everyone using that function must write that specific line of code in the same way," that coding language cannot be subject to copyright.

Judge Alsup, a coder himself, got it right when he wrote that "copyright law does not confer ownership over any and all ways to implement a function or specification of any and all methods used in the Java API." It's a pleasure to see a judge so fundamentally understand the technology at issue; indeed the first part of the opinion reads like an Introduction to Java class (and, to be certain, if Oracle appeals, Judge Alsup's lesson will do a fantastic job teaching the appeals court how Java works). It's that fundamental understanding that allowed Judge Alsup to explain:

That a system or method of operation has thousands of commands arranged in a creative taxonomy does not change its character as a method of operation. Yes, it is creative. Yes, it is original. Yes, it resembles a taxonomy. But it is nevertheless a command structure, a system or method of operation — a long hierarchy of over six thousand commands to carry out pre-assigned functions. For that reason, it cannot receive copyright protection — patent protection perhaps — but not copyright protection.

Judge Alsup's opinion implicitly recognizes that the copyright laws, mostly recently overhauled in the 1970s, simply were not intended to cover claims like those made by Oracle in this case. Here, Oracle poured through 15 million lines of Android code searching for infringment, and

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found only nine lines (one function!) that had been copied from Java, a circumstance the Court found "innocuous and overblown." Such functionality may be subject to patenting, which has a shorter life span and more opportunities to challenge its validity, but Oracle's attempts to shoehorn its upatented APIs into copyright law were met with the proper rejection.

It's not all good news for innovation: in yet just another example of an intellectual property system gone awry, this lawsuit has likely already cost each side millions (if not tens of millions) of dollars (and that's before damages). Those resources, including the person-hours, can and should be dedicated to developing new technologies and business models, not improving a few law firms' bottom lines. *Oracle v. Google* is just the latest in a long line of cases that ratchet up high-stakes litigation surrounding intellectual property rights – whether it be software patents or copyrights. This dangerous trend creates insurmountable barriers to entry and harms innovation. If this process has taught us anything, it is that this practice needs to stop. This is why EFF will continue to fight for an intellectual property system that has the breathing room to allow for innovation.

And in the meantime, developers everywhere can breathe a sigh of relief - this judge got it right.

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SEARCH

MAY 7, 2012 | BY JULIE SAMUELS



Oracle v. Google and the Dangerous Implications of Treating APIs as Copyrightable

There has been no lack of ink spilled on the legal battle between Oracle and Google surrounding Google's use of Java APIs in its Android OS. And no wonder, what with testimony by both Larrys (Page and Ellison), claims of damages up to \$1 billion, and rampant speculation that a ruling in Oracle's favor could change the way we all use the Internet. Today, we got our first taste of where this all might be heading: the jury came back with a finding that, assuming APIs are subject to copyright, Google has infringed at least some of Oracle's. But significant outstanding questions remain, including whether copyright can in fact apply (the judge alone will decide this) and whether Google made a legal fair use of those APIs (we believe it did).

What's really at stake here? This first stage of the trial concerns whether Oracle can claim a copyright on Java's APIs and, if so, whether Google infringes those copyrights. (In 2010, Oracle bought Sun Microsystems, which developed Java.) When it implemented the Android OS, Google wrote its own version of Java. But in order to allow developers to write their own programs for Android, Google relied on Java's APIs. (For non-developers out there, APIs (Application Programming Interfaces) are specifications that allow programs to communicate with each other. So when you read an article online, and click on the icon to share that article via Twitter, for example, you are using a Twitter API that the site's developer got directly from Twitter.)

Here's the problem: Treating APIs as copyrightable would have a profound negative impact on interoperability, and, therefore, innovation. APIs are ubiquitous and fundamental to all kinds of program development. It is safe to say that *all* software developers use APIs to make their software work with other software. For example, the developers of an application like Firefox use APIs to make their application work with various OSes by asking the OS to do things like make network connections, open files, and display windows on the screen. Allowing a party to assert control over APIs means that a party can determine who can make compatible and interoperable software, an idea that is anathema to those who create the software we rely on everyday. Put clearly, the developer of a platform should not be able to control add-on software development for that platform.

Take, for example, a free and open source project like Samba, which runs the shared folders and network drives in millions of organizations. If Samba could be held to have infringed the Microsoft's copyright in its SMB protocol and API, with which it inter-operates, it could find itself on the hook for astronomical damages or facing an injunction requiring that it stop providing its API and related services, leaving users to fend for themselves.

Another example is the AOL instant messaging program, which used a proprietary API. AOL tried to prevent people from making alternative IM programs that could speak to AOL's users. Despite that, others successfully built their own implementations of the API from the client's side. If copyright had given AOL a weapon to prevent interoperability by its competitors, the outcome for the public would have been unfortunate.

Setting aside the practical consequences, there's a perfectly good legal reason not to treat APIs as copyrightable material: they are purely functional. The law is already clear that copyright cannot cover programming languages, which are merely mediums for creation (instead, copyright may potentially cover what one creatively writes in that language). Indeed, the European Court of Justice came to just that conclusion last week. (Ironically enough, when Sun

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Microsystems was an independent company, one of its lawyers wrote amicus briefs arguing that interoperability concerns should limit copyright protection for computer programs.)

Improvidently granting copyright protection to functional APIs would allow companies to dangerously hold up important interoperability functionality that developers and users rely on everyday. Let's hope the judge agrees.

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Oracle v. Google Shows the Folly of U.S. Software Patent Law

- By Julie Samuels
- **Email Author**
- 04.23.12 4:05 PM



Oracle v. Google has all the ingredients of an epic, high-stakes courtroom battle: a damages claim of up to \$1 billion over the use of Java in the popular Android operating system, testimony by both Larrys (CEOs Page and Ellison) in the first week alone, and, of course, the

disposition of some interesting legal issues, not the least of them whether APIs can be copyrighted.

But, more than all of that, the case serves as an important teaching moment, illustrating much of what doesn't work in our patent system.

That system is of course enshrined in the U.S. Constitution, which gives Congress the power "To promote the Progress of Science and useful Arts, by securing for limited Times to ... Inventors the exclusive Right to their ... Discoveries." But when we start talking about software patents, we really only see barriers to innovation, often in the form of expensive litigation and licensing fees. What gives?



Julie Samuels



For starters, software often does not require the type of heavy investment that should result in a 20-year monopoly. Instead of expensive laboratories or years of testing for FDA approval, for example, you often just need a coder and a computer. Even complex programs don't require 20 years of exclusivity to recoup their investment. Software patents are often not even necessary for successful businesses: Facebook and, yes, Google — never relied on software patents to grow their early businesses.

Software patents are also notoriously vague and difficult to understand, making it impossible for small inventors to navigate the system without expensive legal help. And that brings us to the most dangerous aspect of software patents: litigation.

Patent litigation has become little more than a tax on innovation that drives companies from the U.S. market and discourages investment in the next Facebook or tomorrow's Twitter. It turns out that software patents are nearly five times more likely to be the subject of litigation as other patents. In fact, lawsuits surrounding software patents have more than tripled since 1999, and they have become part of the price of doing business in America. Take Spotify. After realizing much success in Europe, Spotify launched its U.S. product in July, and just weeks later it found itself facing a patent suit.

And it's not just established companies like Spotify and Google — small start-ups and even individual inventors find themselves on the opposite ends of threats and lawsuits. The patent system is supposed to benefit society and those who create, but instead the real winners in this game are the lawyers.

Perhaps most troubling, the patent system fails to recognize how people create and use technology. Software is fundamentally situated as a building-block technology. You write some code, and then I improve upon it — something the open source community has figured out. Google's use of Java in its Android OS also demonstrates how innovators create, by making its own product and and incorporating some elements of the Java language (which, incidentally, Java's creators have a history of supporting). And when those two come together, it results in an incredibly popular product, here the Android OS.

In the fast-changing world of technology, where a kid coding in his basement can write a program that can change the world, it's important that this ability to use and share is protected. It's also worth noting that if Oracle wins on its copyright claims, whole programming languages could become off limits, a dangerous proposition indeed.

Oracle's attempts to shut this down, whether by patents or copyrights, are just the last in a depressingly long line of rights holders attempting to cut off important and popular downstream uses of their products, even when those uses may be legal (such as a fair use) or beneficial to society at large.

This is not to say that intellectual property rights shouldn't exist, or that owners of those rights should not be able to enforce them. However, it's time to rethink our policies on software patents, and, depending on what happens in *Oracle v. Google*, the extent to which we allow copyright claims to cover the functional programming language that builds the backbone of much of the technology we use today.

Patent litigation has become little more than a tax on innovation that drives companies from the U.S. market and discourages investment in the next Facebook or tomorrow's Twitter. In this case alone, Google and Oracle each will likely spend tens of millions of dollars (and that's before any potential damages are levied) — money that could and should be used for further innovation and growth.

Congress recently passed patent reform legislation that wholly lacked provisions to curb the pernicious effect posed by exploding patent litigation, which harms innovation and our recovering economy. *Oracle v. Google* is unfortunately not the exception, but the norm. A total reset on software patents is long overdue.

Photo: Oracle headquarters



Julie Samuels is a Staff Attorney at EFF, where she focuses on intellectual property issues. Before joining EFF, Julie litigated IP and entertainment cases in Chicago at Loeb & Loeb and Sonnenschein Nath & Rosenthal. Prior to becoming a lawyer, Julie worked as a legislative assistant at the Media Coalition in New York and as an assistant editor at the National Journal Group in D.C. Julie earned her JD from Vanderbilt University and her B.S. in journalism from the University of Illinois at Urbana-Champaign.

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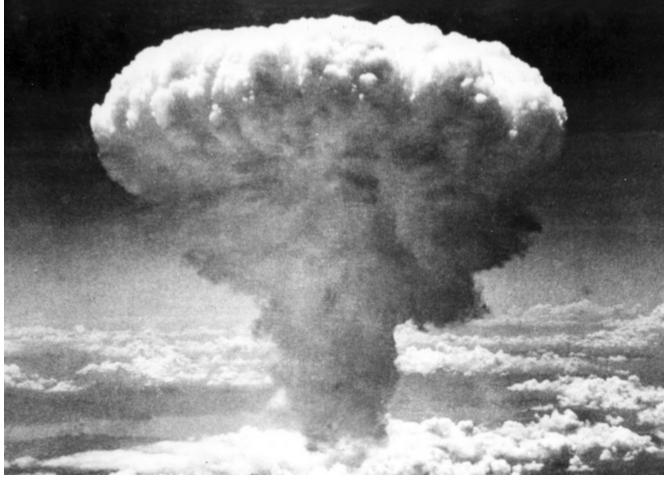
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Could an Oracle Win Against Google Blow Up the Cloud?

- By Robert McMillan
- **Email Author**
- 05.07.12 6:30 AM



What will happen to companies that clone Amazon's APIs if APIs can be copyrighted? Photo: U.S. Air Force

A San Francisco court has spent the past few weeks considering a copyright question that could weigh heavy on the future of cloud computing.

It's part of a high-profile lawsuit between Oracle and Google. Oracle says that Google violated its copyrights and patents when it wrote its own version of Java for the Android mobile operating system. Part of what the court is trying to figure out this week is whether Google wronged Oracle by writing software that mimicked the Java Application Programming Interfaces (APIs are coding standards that let programs communicate with one another). The conventional wisdom in the coder community has been that it's fine to reproduce the interface of someone else's APIs, so long as you don't actually copy their software. So if the court finds that APIs are copyrightable, it could have major implications for any software that uses APIs without explicit permission — Linux for example. But it could affect things in the cloud, where there are several efforts to clone Amazon's Web Services APIs.

"If APIs can be copy-protected, that would be incredibly destructive to the internet as a whole for so many different reasons," says George Reese, Chief Technology Officer with enStratus Networks, a seller of cloud management services. "But with respect to cloud, in particular, it would put any company that has implemented the Amazon APIs at risk unless they have some kind of agreement with Amazon on those APIs."

An open source effort called OpenStack is the most prominent example of a project that mimics Amazon's APIs, and the case could give Amazon legal grounds to seek licensing deals from OpenStack users such as Hewlett-Packard and Rackspace.

But other projects reproduce Amazon's APIs, including Citrix's CloudStack project and middleware such as Jclouds and Fog.

"The problems that would face cloud computing are many of the same problems we'd see, frankly, all over the internet if APIs were copyrightable," says Julie Samuels, an attorney with the Electronic Frontier Foundation who has been following the trial.

Depending on how U.S. District Court Judge William Alsup rules, the U.S. could have a different take on this question from the rest of the world. This week, a European court ruled that APIs are not copyrightable, and Alsup has asked Google and Oracle to submit briefs on how that ruling should be viewed by the court. Both parties have until May 14 to comment on this, so it doesn't look like Alsup plans to rule on the copyright question until after then. Just to make matters more complicated, a jury is simultaneously deliberating Oracle's case, but they won't be answering the API copyright question; that's up to Alsup himself. One thing that makes the issue particularly troubling for open source projects is the extremely long shelf life of copyrights, Samuels says. Patents expire after less than 20 years, but copyright would protect the Amazon APIs for 95 years from the date they were first published, she says. "Copyright lasts a hell of a lot longer than patent protection." On the bright side, at least for open source hackers, is the possibility that a ruling in favor of copyright-protecting APIs could push cloud providers to come up with new, open, standard APIs. But it's not much of a sliver lining, according to enStratus's Reese. "While that's potentially useful for cloud [computing]," he says. "I am much more concerned about the implication for the internet as a whole. Or, more realistically, America's role in building internet companies. No other country is going to honor the idea of copyrighted APIs." Adding to the uncertainty, Amazon has never said whether it thinks companies that implement its APIs violate its copyright. Amazon, for example, has a partnership with another cloud company that implements its APIs, called Eucalyptus, but neither company could immediately provide a comment saying whether their agreement covered API copyright

"No one actually knows outside of Amazon what their attitude is toward the stewardship of their APIs and what people can do with them," says Jason Hoffman, the chief technology officer with Amazon competitor Joyent. Joyent uses its own APIs, not Amazon's.

Hoffman says that Joyent is fine with other companies cloning its APIs, because its core intellectual property lies elsewhere. "The APIs are not the thing that makes or breaks our business," he says. "Our margins depend on extremely good software that's meant to manage a bunch of data centers."



Robert McMillan is a writer with Wired Enterprise. Got a tip? Send him an email at: robert_mcmillan [at] wired.com.

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What's at stake in Oracle v. Google?

'Endless litigation': No end in sight for patent, copyright wars

Rohan Pearce (Techworld Australia) | 11 May, 2012 16:16

The stakes in Oracle's lawsuit against Google over Android are high for developers, with the recent finding by a jury that <u>Google infringed Oracle's Java copyrights</u>^[1] by, among other things, implementing Java's application programming interfaces (APIs] for Android.

There is still no final ruling as to whether APIs <u>are, in fact, copyrightable</u>^[2], nor whether the Android's employment of them is considered 'fair use'. However, the jury has found that Google infringed Oracle's copyright.

The <u>Free Software foundation has issued a statement saying</u> that "Were it grounded in reality, Oracle's claim that copyright law gives them proprietary control over any software that uses a particular functional API would be terrible for free software and programmers everywhere."



FSF's executive director, John Sullivan, has described Oracle's claim as an "unethical and greedy interpretation" of copyright law.

An API (Application Programming Interface) is a way for software to use other software. Most systems are built using layers upon layers of APIs. An API does not define how something is done, only what commands can be given and what data is returned. This is similar to how you would normally use a computer. Pressing the "save" icon in your word processor will (hopefully) result in your file being saved, but you don't actually know what happens behind the scenes to make that happen.

For example, Java has an API for sending commands to the system. If you wanted your code to print out a line you would use the "System.out.printf()" method without actually knowing how it's implemented and only knowing what would happen when you sent that. This also makes it possible to implement interoperable systems: As long as your software provides the same list of features offered by a particular API, and uses the same names and structure, it will be compatible.

Oracle is claiming the list of functions in Java's APIs and their method of organisation is copyrighted and that Android is violating Oracle's copyright by implementing Java's APIs in Android.

Julie Samuels of advocacy group Electronic Frontier Foundation has argued that a finding that APIs can be copyrighted (as distinct from the code used to implement a particular API), it will "have a profound negative impact on interoperability, and, therefore, innovation". [4]

Samuels argued: "APIs are ubiquitous and fundamental to all kinds of program development. It is safe to say that all software developers use APIs to make their software work with other software. For example, the developers of an application like Firefox use APIs to make their application work with various OSes by asking the OS to do things like make network connections, open files, and display windows on the screen. Allowing a party to assert control over APIs means that a party can determine who can make compatible and interoperable software, an idea that is anathema to those who create the software we rely on everyday."

Oracle's copyright claim against Google might seem rather novel, given that most recent high profile intellectual property litigation has focussed on alleged patent violations. Apple and Samsung have been locked in a <u>series of interlocking battles over mobile patents</u>^[5]. It's far from the only clash in the mobile space; for example, <u>Nokia has sued HTC, BlackBerry maker RIM and ViewSonic over alleged patent infringement</u>^[6].

Motorola Mobility and Microsoft <u>have been in court over patents</u>^[7]. Yahoo <u>has targeted social networking giant Facebook</u> [8]. Facebook claims Yahoo is violating its patents^[9].

For anyone who cares about innovation, it's a depressing landscape; Dr Matthew Rimmer, associate professor at the Australian National University College of Law, describes it as a series of copyright and patent "wars" in the IT space.

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"From my perspective, it worries me — that question of trying to claim copyright in relation to part of the Java programming language," Rimmer says. "Ideally, in terms of computer programming, there needs to be a common language that programmers can draw upon to create computer programs. I just worry much [that] like with the English language certain things need to be in the public domain so that people can make use of certain sorts of languages to engage in creative expression.

"I think this case [Oracle's suit against Google] throws up quite basic issues about what is protected by copyright law and what is in the intellectual commons."

Although lawsuits over patents have had a much higher profile than litigation over copyright, Rimmer says that "it goes in phases".

"Copyright has much lower threshold to gain protection than patent law. So with patent law you have to establish there's novelty, an inventive step and utility. [With] copyright law in the United States you just have to show there's a creative spark and that's not a very high level originality required in relation to copyright protections. And copyright protection has a very long life."

"Historically it was thought there was a mismatch between copyright law and computer programs," Rimmer says. "In battles like this one you can see the awkward nature of the fit between copyright law and computer software and hardware... It's problematic at the moment that in relation to information technology there are these sweeping wars happening involving patents, and copyright, and trade secrets and trademarks.

"I'm just not sure whether those information technology wars are going to result in good outcomes for computer programming, innovation, consumer rights, competition... It just seems that these entities are going to be heavily involved in such battles for a very long time especially when you think about the length of copyright protection."

Additional reporting by Pascal Hakim.

Rohan Pearce is the editor of <u>Techworld Australia</u>^[10]. Contact him at rohan_pearce at idg.com.au.

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Legal experts decipher Oracle-Google verdict

A jury's inability to agree on a question about fair use and Java APIs likely signals good news for Google and Android developers.



by Charles Cooper, Elinor Mills and Daniel Terdiman | May 7, 2012 4:28 PM PDT

The fact that a jury couldn't make up its mind about a key question in Oracle's copyrightinfringement case against Google could turn out to be good news for Google and the Android development community, according to legal experts.

A unanimous jury found that Google infringed on Oracle's 37 Java APIs, but they could not decide whether Google had made "fair use" of the infringing material in its Android mobile platform. As a result, the odds of a billion-dollar payday in Oracle's future -- at least in the near term -- are relatively low and the odds of a mistrial, requested by Google's lawyers today, being granted by the judge are relatively high.

We asked some legal experts to weigh in on the partial verdict and how the trial might play out.

"There is a dangerous potential outcome if we can start copyrighting APIs because copyright does not contemplate the protection of functional computer programming. It does contemplate protection of what you can create with the programming languages or programs like APIs," said Julie Samuels, staff attorney at the Electronic Frontier Foundation, which opposed Oracle's lawsuit from the get-go.

Oracle's lawsuit against Google focused on the question of whether application programming interfaces can be copyrighted. Google's position is that there can't be an ultimate determination on infringement until the fair use question is answered.

"If Google is found to have made fair use of the APIs then we'll never get to the question of whether they were copyrightable," Samuels said. "The judge needs decide whether copyright even applies to APIs...All these have to happen before Google is on the hook for copyright infringement. Once that happens we'll get an appeal and this could go on for years. This is really the heart of this case. It has far-reaching and dangerous consequences for all kinds of developers who use APIs everyday in their work and for those of us who rely on them in our computers and how we use the entire Internet."



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But if Judge Alsup rules that the APIs cannot be copyrighted, as the European Union Court of Justice ruled last week, then fair use has no teeth.

Tyler Ochoa, a professor at Santa Clara Law School, called the decision "a bit of a mixed bag." "It's not a clear victory for either side," he said, offering several scenarios for what might happen next:

"There are two possibilities, one favorable to Google -- that they believe it was fair use...they were relying on copyright law. The other possibility (favorable to Oracle), is that they were determined to go ahead and do this anyway, regardless of whether it was copyrightable or not. That may explain why jury couldn't reach a verdict (on fair use). A third possibility -- and another way Google could still win -- [that the court finds that] the structure sequence and organization of an API isn't copyrightable at all."

That's the question the judge will have to decide, according to Ochoa.

"He may have been hoping not to have to decide that," Ochoa said. "He could have avoided it depending on what the jury did, but the jury didn't give him an out. If jury had found fair use -- or that Google relied on Sun's conduct, the judge could say it's okay. But the jury didn't give him that, so the judge is going to have to decide."

"Alternatively," he added, "the judge could grant a new trial on the issue of fair use -- or he could decide himself."

At this point in the case, Brian Love, a lecturer and fellow at Stanford Law School, gave the nod to Google:

"I would tend to agree with Google's position that there can't be an ultimate determination on infringement until the fair use question is answered, and if jury can't decide if what Google did was fair use then it can't say that what Google did was copyright infringement. Because if something is fair use, then by definition it can't be copyright infringement."

"Typically, you'd think a jury would say we're at impasse and the judge would say 'deliberate more, deliberate more.' I'm a little surprised that the judge let the verdict come down as it did. Think about all the cost and expense to put this trial on, and when a jury comes back and says 'we can't answer a question that's crucial to the case,' I think what's going to have to end up happening is what Google wants, which is that there would have to be a mistrial."

Echoing a comment offered by other legal experts, Love said he was unsure whether a final judgment could be rendered case without an answer on the fair use question, leading him to expect the judge to grant the mistrial motion.

As for the immediate future, Love said there could be additional proceedings on the copyright issue.



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"I'm guessing that what will happen is that the case will continue on the patent issues and then we'll find out pretty soon on the copyright, and whether the last couple of weeks on the copyright proceedings has been all for naught...The more immediate question before Judge Alsup is whether copyright even applies to this dispute. If the judge decides no, then none of this really matters and Google can't infringe as matter of law."

But if Google convinces the judge to order a mistrial, Oracle is not left with an empty arsenal of arguments. In fact, says Miles Feldman, an intellectual property litigator at the firm of Raines Feldman, the jury decision gives Oracle a strong argument should there be a new trial.

"It's a very significant jury verdict in that the jury found infringement. They answered questions in a way that would indicate that they were not too impressed by the fair use defense. Google now has the opportunity to say that the verdict should be thrown out and a new trial granted. I think Oracle has very strong arguments that at least the questions answered by the jury should be kept and any retrial or additional issues, if they're necessary, would be the only issues tried. So the issue of infringement wouldn't be retried again. Fair use can be partial or complete defense to infringement."

"Oracle can hope that the infringement aspect stands and the issue of fair use can be the subject of a new trial. They will also argue that the issue of fair use can be decided as a matter of law, but that will be hotly contested. It's typically a mixed question of what we call 'law' and 'fact.' The judge decides law and juries typically decide questions of fact. The big takeaway is that the jury, after hearing everything, found infringement. That's huge. And that finding was unanimous."

Topics: Corporate and legal Tags: Oracle-Google



About Charles Cooper

Charles Cooper is an executive editor at CNET News. He has covered technology and business for more than 25 years, working at CBSNews.com, the Associated Press, Computer & Software News, Computer Shopper, PC Week, and ZDNet. E-mail Charlie.









About Elinor Mills

Elinor Mills covers Internet security and privacy. She joined CNET News in 2005 after working as a foreign correspondent for Reuters in Portugal and writing for The Industry Standard, the IDG News Service, and the Associated Press.







About Daniel Terdiman

Daniel Terdiman is a staff writer at CNET News covering games, Net



culture, and everything in between.





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Go ahead and blame Verizon for a Jelly Bean-less Galaxy Nexus Mobile



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The impasse reached Monday in San Francisco hobbles Oracle Corp.'s attempt to extract hundreds of millions of dollars from Google on grounds that the search leader pirated parts of Android from Oracle's Java programming system.

Although the jury decided Android infringes on some of Java's copyrights, the five men and seven women on the panel were divided on whether Google's actions were permissible under "fair use" protections of U.S. law. The fair-use provision allows excerpts of copyrighted work to appear in other creative expressions, such as books, movies and computer software.

With the fair-use question still dangling, Oracle now appears to have little hope of emerging from the trial with a windfall.

The jury also found that Android infringes on nine lines of Java coding, but that claim probably won't be worth more than \$150,000 in damages, based on statements made earlier in the trial. When an Oracle lawyer suggested Monday that the infringement verdict on the nine lines could be worth substantially more, Alsup said the idea "borders on the ridiculous."

http://www.google.com/hostednews/ap/article/ALeqM5h_8aUM4USKo7KFrEtMe3IB 8MqsZQ?docld=4721d378a521450098ffdd2e4d32275f

Bwahahahahaha! Oracle spent MILLIONS on lawyers! Google has that much in their couch cushions.

Posted by bufbarnaby (1865 comments)
May 7, 2012 4:42 PM (PDT)

Like (7) 🥎 Reply 🖠 Link 🏴 Flag

Eh? Last I checked Oracle's and Google's top and bottom lines weren't too different...

Posted by T-Guy (98 comments) May 7, 2012 5:32 PM (PDT) Like % Link ► Flag

Actually, according to the deposition by Oracle's damages expert, those 9 lines are worth zero.

Posted by aminox (138 comments)
May 7, 2012 5:43 PM (PDT)

Like (7) 🖠 Link 🏲 Flag

How much and how many times is that code used? Once no. Billions of times it is used over and over.

> those 9 lines

Posted by whatsmine (88 comments)
May 9, 2012 7:06 AM (PDT)

Like S Link Flag

The markets have spoken. Oracle down, Google up.

Oracle really should have taken up Judge Alsup's recommendation to settle, over the risky route of a trial. That EU ruling was a blow for Oracle in mid-trial, even if it was in Europe and in an unrelated case.

Now, they might not get any money if the 9 lines of code are determined to be de minimis and that APIs cannot be copy-protected.

Posted by gork_platter (1106 comments)
May 7, 2012 5:05 PM (PDT)

Like (9) Seply Link

If the Judge grants the mistrial the settlement offer might come back on the table. Google would still benefit from an out of court settlement that grants

them use of the Java name and keeps them out of any further court cases with Oracle. Posted by zaznet (1141 comments) Like % Link Flag May 8, 2012 10:53 AM (PDT) I say Oracle will use this partial win to go after every manufacturer of Android and Chrome. Everyone does not have Googles deep pockets. Posted by clcharle2 (3 comments) Like Reply % Link Flag May 7, 2012 5:19 PM (PDT) If Android is shown not to infringe on Java, than what is there to go after? Posted by hutwarmer (355 comments) Like (6) % Link Flag May 8, 2012 6:12 AM (PDT) Oracle didn't win anything! Nine lines of now-removed code, out of millions, were found to have infringed; their total value is (per Oracle's expert) zilch. The API issue is one of law; there is almost no doubt that Google's use was acceptable. The jury was thus asked a meaningless question of fact. Yes, Google used the API; by the same token, I read CNET News this morning. (But I didn't infringe by so doing.) I think the CNET report went overboard trying to spin it in Oracle's favor, when they got their rear end whumped. Posted by fgoldstein (113 comments) Like (4) % Link Flag May 8, 2012 8:37 AM (PDT) If they loose here, they can't sue anyone else either. They haven't won anything by the way, in fact they seem to be loosing badly. Posted by lostviking (585 comments) Like % Link ₱ Flag May 8, 2012 9:34 AM (PDT) It's not even a partial win for Oracle. The question the jury answered was, "Did Google use the same API as Sun?" No one was even debating that. Everything is still up in the air, except that now the judge has the option on ruling on the Fair Use and the Is An API Copyrighable issues. Posted by branciforte (10 comments) Like (3) Reply % Link Flag May 7, 2012 5:33 PM (PDT) So far the Judge has seemed in favor of Google's position in this case. Difficult to call it but I'd say a ruling in favor of Google is the most likely outcome.

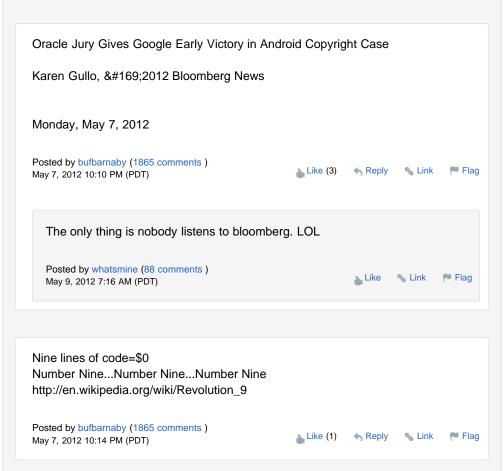
Posted by zaznet (1141 comments) ▲ Like % Link Flag May 8, 2012 10:55 AM (PDT) the only thing that oracle got from the jury is the answer to the question of whether google copied the same structure params of the java API and the jury said yes.. however, the judge said that they can answer that question in the assumption that SSO (structure, organziation of the packaging) is copyrightable.. if the jury will answer YES (which they did) then the judge will have to make a ruling if indeed it is copyrighteable, which given the EU ruling recently and what many legal and technical experts say, it's not. Posted by sundance808 (239 comments) **Like** (4) Reply % Link Flag May 7, 2012 5:52 PM (PDT) That's all? That's the core of the case. >> the only thing that oracle got from the jury is the answer to the question of whether google copied the same structure params of the java API and the jury said yes Posted by whatsmine (88 comments) Like ♣ Link Flag May 9, 2012 7:09 AM (PDT) Oracle got a Pyrrhic victory (With 9 lines of code among thousands of lines of code) And yes - they will now probably go after everything Android to bleed as much money that they could possibly get. But the cost to Java will be more devastating in the long run. What will happen if Oracle step on any of the many patents (and now copyrights) held by so many Android vendors including Motorola. This WAR is far from over. Posted by FlashIsCool (136 comments) Like % Link Flag Reply May 7, 2012 9:55 PM (PDT) Except that Oracle did not win a victory yet on anything. Nothing has been answered and won't be until the judge rules on if the API can be copyrighted...I'm thinking he's leaning to no which leaves Oracle looking like the as_hat's they are. Posted by lostviking (585 comments) Like (2) % Link Flag May 8, 2012 9:37 AM (PDT) He already looked that over before this case began or he would not have taken it. With the jury answering YES to #1 he will need to continue.

% Link

Flag

Posted by whatsmine (88 comments)

May 9, 2012 7:13 AM (PDT)





Very funny that these so called Legal Experts have no background to perform legal advice or have practiced any law for that mater!

Also these post as so missinformed and obnoxious that it's comical to read, you have one poster that has added 5 comment's of utter nonsence and the others just follow along.

This case is far from over, and be very clear about this, Google will be struck down hard, it's already being sanctioned for putting illegal code in Apple Safari to steal information, they are going to be probed and charged with anticompetitive behaviour and it is very possible that the Motorola deal will be killed off, China has not signed off on the deal the EU & US are getting their cases ready at this time.

Face it, Google has a long road to go and it now looks as if they have pushed to far taking advantage and using the same old apologize after the fact of committing a offense with a never do it again attitude.

Allot of you will be eating your words when Google has to pay out Billions.

, Oracle had to pull a number of patented offenses from the docket to streamline this case, Oracle was told that it can go and file thoes other lawsuits and be sure

they will

Cnet, get real Trained And practicing in Law legal experts and not some bloggers and so called reporters that have covered allot of cases or cover Games "omg"... Really this is your legal experts! Pft..

This is a new era and new laws and opinions are being set daily in courts, Just remember Folks, a weatherman can be wrong 95% of the time, Still keep their job and get paid., just because you say something dosnt make it so. Think about it.

Snappy so called headlines only will get a few page clicks, when your deemed full of it.. If the shoe fits!

Posted by ionstorm5000 (2 comments) May 8, 2012 12:42 AM (PDT)

Like (1) Seply

% Link

Flag

Allot of you will be eating your words when Google has to pay out Billions.

And you will be eating your words when they don't have to pay billions.

Posted by t8 (3640 comments) May 8, 2012 2:31 AM (PDT)

Like (5) % Link 🏴 Flag

@ionstrom5000.

what are you talking about? are you following the same case as everyone else?

"At this point in the case, Brian Love, a lecturer and fellow at Stanford Law School, gave the nod to Google"

Yeah, I'm sure this guy has NOOOOO idea what he is talking about. HAHAHAHA!!!

Posted by hutwarmer (355 comments) May 8, 2012 6:10 AM (PDT)

Like (5) % Link 🏲 Flag

ROFLMAO, you sounded so smart for a minute....OK, I'm lying.

Posted by lostviking (585 comments) May 8, 2012 9:39 AM (PDT)

Like (2) % Link Flag

Thank you!

Geez its so refreshing to see a functioning brain in writing!

I was getting hopeless with each ignorant comment after another.

Google has been bullying smaller companies around and doing whatever they feel like. They do this because they know very few others have the legal budget to do anything to them. So google has been playing the odds and winning so far because they learned from MS... Legal actions take so long that they can reep billions in profits before any of it catches up to them. But it will catch up.

Posted by BayAreaCA (305 comments)



Oracle has an outdated approach. Copyright on an API is just sick! All these lawsuits won't change the course of history and this is more the direction where Google is steering to.

Posted by hengels2 (40 comments)
May 8, 2012 1:51 AM (PDT)

Like (1) Reply Link Flag

Have you ever written any production ready code or worked on developing any framework?

I didn't think so either.

Posted by whytakeiteasy (25 comments)
May 8, 2012 8:08 AM (PDT)

Like (1) Like (1) Flag

If the judge or jury decides that API cannot be made copyrightable that would be a real loss for IP owners.

Any programmer worth his salt knows how hard designing an API is. In fact, designing a well thought out API is half the battle towards a successful implementation.

Whether Google pays or not is a different matter but not making APIs copyrightable is just plain wrong. API is IP. Anyone who says otherwise has no idea what they are talking about.

Posted by whytakeiteasy (25 comments)
May 8, 2012 8:05 AM (PDT)

Like (2) Reply Link Flag

There is considerable precedent that APIs are not themselves copyrightable. They are functional, not expressive. This came up in the SCO case, where they tried to claim copyright infringement of Linux because it used Unix copyrights. While the case was decided on other grounds (Novell, not SCO, owned the copyrights that SCO was using to sue Novell among others!), the case record

made clear that the header files that described the API were merely functional descriptions, not subject to copyright.

Posted by fgoldstein (113 comments)
May 8, 2012 8:42 AM (PDT)

Everyone wants it for FREE.
If YOU can do the work for me why would I pay or create one?

Posted by whatsmine (88 comments)
May 9, 2012 7:27 AM (PDT)

Like Link Flag

API signatures should not be copyright protected, but the API signature AND its internal codes down to some level of call hierarchy can be copyrightable, specially where the API's program codes and internal workings can be considered an invention or an important, if not critical, enabler or differentiator for the product/service/brand.

The protection should specially cover inventions that are expressed in the API's program codes. Such works cannot be used by third-parties towards a profitable end without proper authorization and license from the copyright owner notwithstanding claims of "fair use".

The protection should not be purely superficial to the API's program codes but should equally consider the functional/behavioral aspects of the work. The overall SSO can only be considered a partial evidence regardless if the nature of physical similarities between contesting sources are evidently questionable and invite scrutiny.

The protection should exclude expressions that generally represent implementations of publicly documented or known patterns and best practices, such that granting protection would copyright the patterns or best practices themselves, which should be respected in the public domain.

Posted by e_mendz (329 comments)
May 8, 2012 8:22 AM (PDT)

🚡 Like 🔸 Reply 🖠 Link 🏴 Flag

Agreed. Mere method name or signature in itself that describes a commonly known pattern cannot be copyrightable. For example, public void sort(Collection c); is a signature for a well known pattern.

However, a collection of methods including their hierarchical organization that describes a system or a framework that is new, should be copyrightable. Java API is one such example and I believe it should be copywritable.

Posted by whytakeiteasy (25 comments)
May 8, 2012 9:09 AM (PDT)

Like % Link ► Flag

I think that the court should be careful in this respect that doing so would stiple innovation outside the realm of Java.

A somehow related argument was decided on in Europe back in 2010 (with questions raised and left pending):

http://www.bailii.org/ew/cases/EWHC/Ch/2010/1829.html with a pretty reliable interpretation here:

http://www.cpaglobal.com/newlegalreview/4642/sas_institute_v_world_program m.

An important conclusion in the SAS vs. WPS decision is that ideas are not copyrightable, but their expressions are. Note that the European case shows that WPS did not have access to SAS's source codes... but the US case shows Google has access to Java's source codes. This difference is important.

Granted, Oracle can only challenge Google on the physical evidences and in proving that there was intent to infringe on the expression of Java-specific ideas. The evidences that point to expressions copied as-is character-per-character may be a case in favor of Oracle. Thus, Google has to play around the laws that permit "transformative work" if they can prove it so.

I maintain contention that the copyright protection of APIs should not be superficial (technically speaking, based on the full or partial set of exposed API signatures alone). The protection should consider deep within the source codes of the APIs such that the fault can be proven to infringe down to the actual expression of the ideas (the internal workings of the APIs), though not necessarily on the idea itself.

Posted by e_mendz (329 comments)
May 8, 2012 11:13 AM (PDT)

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Copyrighting API is like One Car Manufacturer telling another that I have a Copyright on the Car's body and so you cannot have a car with a steering wheel and 4 wheels or something along those lines.. I am a programmer and I can tell you that there are only so many ways you can write APIs and when two programmers start to solve a problem there will be many many aspects for which they would come down to writing the same or similar APIs since both want to follow best practices to solve the same problem.

Oracle is only after money and not really to truly improve technology.

sanjiv

Posted by sanjivthakor (4 comments) May 8, 2012 10:12 AM (PDT)

🚡 Like 🤸 Reply 🖠 Link 🏲 Flag

You are wrong. A car with 4 wheels is not a new concept and so it cannot be copy righted. However, a different styles of stick shifts can be new interfaces and are actually copyrighted. Even the way you checkout at Amazon is copyrighted and that is just an interface.

Again, designing a good API is half, if not more, the work involved. There are only so many ways one can do online check out, yet Amazon's single click check out is copyrighted. So how many way can anything be done is irrelevant.

Oracles motives are irrelevant to this discussion.

Posted by whytakeiteasy (25 comments) May 8, 2012 11:23 AM (PDT)

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What all the legal experts in the article are ignoring is that the Jury was instructed to Pretend/Assume that the API's were copyrightable in reaching their decision and answering the supplied questionnaire. Thus this verdict is based on an assumption that may not be correct. Since the Fair Use Defense is only important if the APIs ARE copyrighted, there was no other way to get a verdict. As others have said the Judge was hoping that if the Jury found Copyright Infringement that they would also rule on if this was moot due to being Fair Use. The Jury was unable to come to a consensus on the Fair Use issue so we ended up with the ambiguous verdict.

Posted by rarpsl (33 comments) May 8, 2012 11:39 AM (PDT)

Like 🥎 Reply 🦠 Link 🏴 Flag

The problem is that one of those jurors is a DIE hard android fan...

I know him and and begged him to leave that at the door... He said "I wont let google down"... so it doesnt matter what information is presented. This guy will practically DIE for android, and therefore google. The jurors are not supposed to talk about this stuff outside of court from what I understand, but this guy was discussing it at dinner like Friday evening news!

Posted by BayAreaCA (305 comments) May 8, 2012 12:07 PM (PDT)



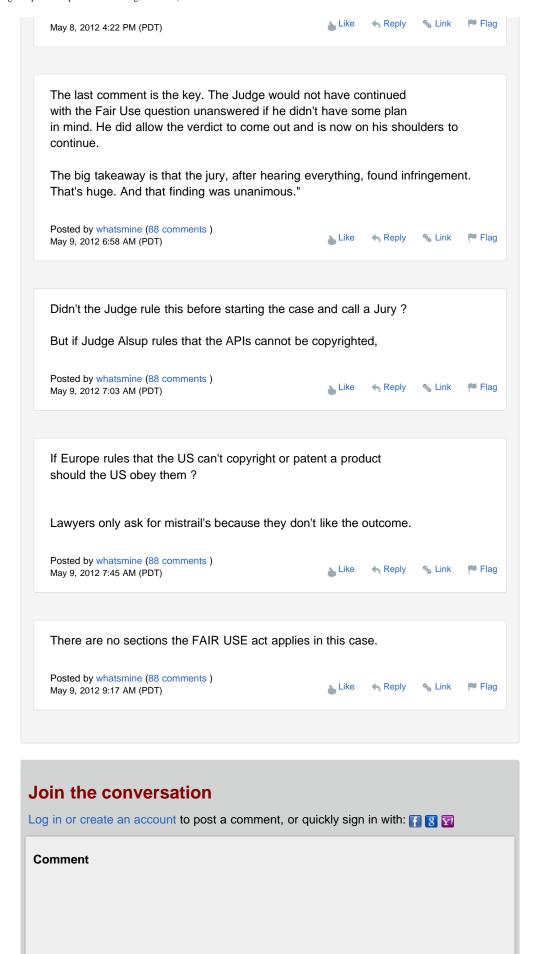
Since the Jury answered part (a.) as a Yes for Infringement, without coming to a conclusion on (b.) Fair use, the whole question must be thrown out and put to a new Jury in a new trial or maybe this Judge makes his decision as a matter of Law. Which is why Judge Alsop has already stated "Zero Liability" has been found and seems he is more inclined to grant Google's Mis-trial motion!

But this whole jury question and answer and Google's motion for a Mis-trial, could still prove to be irrelevant in this case. If the Judge decides Copyrightability in Google's favor. Either way though, the Damages phase of this trial will not include any Copyright Infringement Damages whatsoever. Only those for patents if Oracle is able to proof infringement of either or both patents in this case.

The whole argument that Oracle has won in the Copyright phase then, is really null and void by the Judge's own statement of "Zero Liability". No matter who's side you're on, Oracle has lost in the Copyright phase of this trial in this Judge's eyes. Although they could still win in a future retrial on the question of API Copyrightability or Fair use, even if this Judge declares API SSO's Copyrightable or NOT!

The way is still open for an Appeal by either side on Copyright's at some future date. But this judge rightly allowed Oracle's case to move forward into this trial. Even though he may still decide API's are not Copyrightable under a matter of Law. So any challenge to this decision rendered on a decision by Law, would have a much better chance of withstanding an Appeal. Obviously that's what he's intended from the start. Let this play out as it has in this trial and an Appeal has less chance of succeeding and he has more of a chance of making this an example of Case Law on API Copyrightability for the Future!every Judge's fondest dream come true! :D

Posted by RazorEdge (48 comments)



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EXHIBIT HH

EXHIBIT HH

Becoming a victim isn't.





Google Beats Oracle Patent Claim

Second major phase of trial ends with a win for Google, but judge must still decide whether APIs qualify for copyright protection.

By Thomas Claburn, InformationWeek

May 23, 2012

URL: http://www.informationweek.com/software/operating-systems/google-beats-oracle-patent-claim/240000926



Oracle v. Google: Tour The Evidence

(click image for larger view and for slideshow)

Google on Wednesday was cleared of charges that it had infringed Oracle's Java patents, ending the second major phase of the trial.

"Today's jury verdict that Android does not infringe Oracle's patents was a victory not just for Google but the entire Android ecosystem," a Google spokesperson said in an emailed statement.

Oracle, however, did not concede defeat. "Oracle presented overwhelming evidence at trial that Google knew it would fragment and damage Java," an Oracle spokesperson said via email. "We plan to continue to defend and uphold Java's core write once run anywhere principle and ensure it is protected for the nine million Java developers and the community that depend on Java compatibility."

Oracle filed its lawsuit against Google last August and the trial began in mid-April. Oracle initially talked about \$6 billion in damages. At the moment, it appears Oracle is unlikely to win enough to cover its legal costs.

[Read Google Seeks New Trial In Oracle Fight.]

The copyright phase of the trial concluded in early May. The jury found that Google infringed Oracle's copyrighted Java APIs when it created its Android operating system but not its Java documentation. The amount of infringing code, however, was so small that Oracle's potential damage award is also likely to be very small, if anything at all. The jury could not decide whether Google's use of the Java APIs was allowable as fair use.

With the copyright and patent phrases of the trial complete, Judge William Alsup must decide whether APIs qualify for copyright protection. There's reason to believe they do not: Earlier this month, the Court of Justice of the European Union ruled that neither the functionality of a computer program nor the format of its data files are expressive enough to merit copyright protection.

The Electronic Frontier Foundation argues that APIs should not be copyrightable. "Improvidently granting copyright protection to functional APIs would allow companies to dangerously hold up important interoperability functionality that developers and users rely on everyday," said EFF attorney Julie Samuels in an online post earlier this month.

If Alsup decides that APIs do qualify for copyright protection, Oracle will have to take its copyright case back for a new trial because of the jury's inability to reach a conclusion about fair use.

At this year's <u>InformationWeek 500 Conference</u> C-level execs will gather to discuss how they're rewriting the old IT rulebook and accelerating business execution. At the St. Regis Monarch Beach, Dana Point, Calif., Sept. 9-11



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EXHIBIT II



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Copyright Doesn't Prevent Compatibility--Some Thoughts on Oracle v. Google



Copyright Doesn't Prevent Compatibility--Some Thoughts on Oracle v. Google [1]

By John Bergmayer [2] | April 19, 2012



Copyright law protects creative expressions but it does not prevent someone from creating a new work that is designed to be compatible with an old work. Unfortunately some rightsholders who benefit from people being locked-in to their products would like this to be otherwise and have, time and again, tried to use the law to limit a legitimate form of competition.

Recently <u>Pearson and other publishers sued Boundless Learning</u> [4], a creator of open source textbooks. It appears that Boundless has structured its books to be drop-in replacements for existing proprietary textbooks. You can understand why they'd do that--teachers who have existing lesson plans based around the structure and organization of one of Pearson's books would find it easy to switch over to a Boundless book. This doesn't give Boundless the right to copy the creative expression of one of Pearson's books, but it's not at all clear that Boundless has done that. This case reminds me of the famous, <u>losing</u> [5] attempt by Thomas West to claim a copyright in the page numbers it used in its public domain republications of public domain legal decisions--because lawyers and judges tend to cite to page numbers, if West was able to prevent other publishers from using them it would require buying a West product to figure out what most legal citations are referring to.

There's a trial happening now in a dispute between Google and Oracle that raises some of these same issues, but in a much more complicated way. (I recommend Ars Technica's continuing coverage [6] for more background.) When it was developing its Android operating system Google wanted it to be as attractive as possible to developers, which meant using some familiar technologies. At the same time it wanted the freedom to engineer its system as it saw fit and not be tied to another company's engineering choices. In part, it accomplished this by allowing its programmers to write in Java, a familiar language, but developing its own "virtual machine," called Dalvik, to actually execute the Java code. This is nothing new--many programming languages [7] work with various different virtual machines, compliers, interpreters and so forth. There's nothing wrong with this and it doesn't raise any particular copyright problems. A programming language per se is not subject to copyright, just as the English language or Esperanto is not subject to copyright. A language is a medium of expression, not an expression itself, and copyright only covers

particular creative expressions. A program written in Java can be subject to copyright, and a program that translates Java into machine code a computer can understand can be subject to copyright, and books that describe how Java works can be subject to copyright. But the language itself is not subject to copyright. So when Google decided it wanted to use Java, but create its own implementation, it did not infringe on anyone's rights.

Oracle, who bought Sun Microsystems (the company that created Java) disagrees, and has sued Google. But it isn't primarily arguing that Google has infringed the copyright on the language itself--not only has it made most of its Java-related code available freely, but the arguments in favor of the copyrightability of languages are pretty weak. Instead Oracle is arguing that Google has infringed on some of the "APIs" that go along with Java. APIs are standard ways that one piece of software can interact with another piece of software, and code libraries that usually come with Java are accessed using standard APIs. For example, if a particular code library performs a mathematical function, the API might tell a developer how to "call" that library from his own program, what label to give the different numerical inputs, and what format the output of the library would be in.

Maybe the best way for a non-coder to understand this is to think of common APIs as being like proverbs-shorthand ways of communicating particular ideas. Just knowing "English" is not enough to understand what "A stitch in time saves nine" means--you need to have loaded the Ben Franklin API. Similarly, "Java" itself is much less useful without implementing certain common APIs. So that's what Google did. It's important to stress that Google did not copy any of Oracle's actual code. (Edit: See update below.) Rather, the ways that Google created for Android developers to call Google code libraries when writing in Java are the same as the ways that developers would call Oracle code libraries when writing for other platforms that also use Java. Oracle considers this to be an infringement of its APIs, which Google says are not copyrightable for many of the same reasons that languages aren't.

All this technical mumbo-jumbo is a pretty big deal. In the first place, Oracle is trying to copyright something that is inherently non-copyrightable. The APIs themselves are just functional aspects of a program, not creative expressions, and of course the primary reason for fighting over the APIs is to fence in the language itself. But the reason why Oracle is doing this is even worse. Google's implementation of Java is designed to be as closely compatible with Oracle's as possible. It is in Google's interest to make things as easy for developers as possible, and to make existing Java code run on Android with as few modifications as possible. And it is in Oracle's interest for people to use Oracle software for Java, not Google's (or for Google to pay Oracle for the right to make a compatible implementation). But copyright should *never* interfere with someone's ability to make a compatible product--in fact, there are several provisions in copyright law specifically designed to make the creation of compatible products easier. If Oracle is allowed to prevent Google from making a compatible product, and this example is followed, all sorts of useful things might be lost. Apple's Pages word processing software might no longer be able to import Microsoft Word files. Your family photos might only be viewable with particular software. Software like WINE or CrossOver that let you run Windows software on other platforms might go away. It might be illegal to buy third-party replacement parts for your car or cheaper toner cartridges for your printer. The point is that the ability to make compatible products, and drop-in replacements generally, is not some esoteric thing that Google and Oracle care about; rather, it's an ability that is central to the modern economy and a part of ordinary people's lives (even if they don't realize it).

As I write this, Google and Oracle are arguing about the conceptual and legal bounds of copyright law in open court. But it's important to put aside the fascinating complexity of the issue to recall that if this case goes the wrong way, future creators and users could be unnecessarily limited in their ability to create and use many things that today are considered legal.

Update: Oracle does in fact argue that Google literally copied some code. This could be copyright infringement or it might be legal under some doctrine like scènes à faire [8], but either way it's separate

from the argument over the copyrightability of APIs.

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EXHIBIT JJ



Published on *Public Knowledge* (http://www.publicknowledge.org)

Home > The GPL Does Not Depend on the Copyrightability of APIs

The GPL Does Not Depend on the Copyrightability of APIs



The GPL Does Not Depend on the Copyrightability of APIs [1]

By John Bergmayer [2] | April 26, 2012



There's a <u>dangerous meme</u> [4] going around that if Oracle loses <u>its novel copyright claims</u> [5] against Google that suddenly the <u>GPL</u> [6] will become unenforceable. This idea hinges on a misunderstanding about the difference between linking to a code library and merely using an API.

In this post I will attempt to explain in layman's terms why the GPL does not depend on the copyrightability of APIs. For the same reasons, neither does any other free software or open source license.

Programmers usually write code in some human-readable form that is then "compiled" into machine code. The machine code, not the code that programmers actually write, is what a computer actually executes.

Programmers save themselves from having to reinvent the wheel by using code libraries. That is, they put statements into their programs that "call" prewritten pieces of code. The exact way they call these libraries is called an "Application Programming Interface," or "API."

When a program is compiled, and it calls such an API, the machine code the compiler produces is based, not just on the code the programmer has written, but on the code that is in the code library. In copyright terms, the compiled program is a "derivative work," and it's derivative not only of the programmer's code, but of the code that is in the code library. The derivative work that is the compiled program can only be created with the permission of all of the relevant copyright owners. This means, of course, the person or organization that owns the copyright to the code libraries.

The GPL states that any derivative work that is based on GPL code must itself be licensed under the GPL. The GPL thus relies on the copyrightability of code libraries to work some of its viral magic. However, this has nothing to do with whether the method of calling a GPL'd code library is itself copyrighted. For what it's worth, Richard Stallman, author of the GPL, appears to agree [7].

If a developer does not want to be subject to the licensing terms of a library, he has a few options. Most

obviously he can use code libraries that allow him to create derivative works without being required to license them under any particular terms. Licenses such as the LGPL allow this. Or a developer can structure her code in such a way that it uses "dynamic" libraries; that is, external pieces of code that are not incorporated directly into the compiled program. If you are familiar with Windows then you have seen .dll files; there are such external pieces of compiled code. If these dynamic libraries are already installed on a user's computer then the user can run the program without the developer needing any special license.

Another option for a developer is to do what Google did when it created Android, and create replacement code libraries that are compatible with the existing code libraries, but which are new copyrighted works. Being "compatible" in this context means that the new libraries are called in the same way that the old libraries are--that is, using the same APIs. But the actual copyrighted code that is *being called* is a new work. As long as the new developer didn't actually copy code from the original libraries, the new libraries are not infringing. It does not infringe on the copyright of a piece of software to create a new piece of software that works the same way; copyright protects the actual expression (lines of code) but not the functionality of a program. The functionality of a program is protected by patent, or not at all.

In the Oracle/Google case, no one is arguing that code libraries themselves are not copyrightable. Of course they are and this is why the Google/Oracle dispute has no bearing on the enforceability of the GPL. Instead, the argument is about whether the method of using a code library, the APIs, is subject to a copyright that is independent of the copyright of the code itself. If the argument that APIs are not copyrightable prevails, programs that are created by statically-linking GPL'd code libraries will still be considered derivative works of the code libraries and will still have to be released under the GPL.

Though irrelevant to the enforceability of the GPL, the Oracle/Google dispute is still interesting. Oracle is claiming that Google, by creating compatible, replacement code libraries that are "called" in the same way as Oracle's code libraries (that is, using the same APIs), infringed on some kind of copyright that inheres in the APIs themselves. This means that Oracle is claiming copyright not on the unique creative expression of its code libraries, but on the functionality of the libraries. Oracle is saying that to make a piece of software that is "API-compatible" with another product, without more, constitutes copyright infringement.

I believe that Oracle is wrong [5], but it is certainly a complex subject. Florian Mueller, who provides indispensable analysis of various intellectual property issues in the mobile industry, believes that whether an API is copyrightable can only be determined on a case-by-case basis [8]. He is certainly right that the overall design of a system of APIs can show "creativity," in the same sense that a brilliant mechanical invention is creative. But that does not mean that copyright is the proper way to protect that creativity, if at all. Copyright extends only to "original works of authorship fixed in a tangible medium of expression," and a system of API calls does not meet that test. It is not a "fixed" work in the same way that an actual computer program is. I will not address whether a system of APIs is patentable, but certainly the creativity that a welldesigned API scheme might show is closer to the creativity that a concise mathematical statement (not patentable) or a new design for an engine (patentable) might show. In any event, simply because something is "creative" in some sense does not mean that it deserves legal protection, unless it can be shown that some desired level of creativity would not happen without such protection. I do not see any evidence that the dynamic and innovative software industry requires copyright protection for APIs to maintain its current high level of creativity. Finally, I would take the legal opinions of software industry participants with a Bonneville Salt Flats' [9] worth of salt, since the easiest option for large companies is to simply assume that any and everything needs a "license." This approach certainly reduces litigation risk. And remember that according to the software industry when you buy a computer program at a store you haven't actually purchased and at no point actually own anything, not even the physical discs the program came on. So you be the judge of whether you want software industry practices determining the scope of the law.

But regardless of what you think about the proper relationship between copyright and API design, there is no risk to the GPL if Google prevails and Oracle's APIs are found to be uncopyrightable. The GPL does not depend on some legally tenuous theory about the true nature of a system of API calls.

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EXHIBIT KK

Oracle v. Google: A Win for Software Everywhere

by <u>Jon Miller</u> [1] June 13, 2012

Technology giants Oracle and Google are locked in a legal battle with important implications for the future of software. The case revolves around Google's mobile platform, Android, and its emulation of Oracle's application programming interfaces, or APIs. Oracle alleges that Google's reimplementation of the APIs violates copyright law. But copyright protection for APIs would create a barrier to software development and interoperability across competing platforms.

Recently, federal judge William Alsup delivered a serious blow to Oracle, handing down an opinion holding [2] that Oracle's APIs are not protected by copyright. "So long as the specific code used to implement a method is different, anyone is free under the Copyright Act to write his or her own code to carry out exactly the same function or specification of any methods used in [Oracle's] API." Oracle immediately pledged to appeal the ruling.

In order to understand why Judge Alsup's opinion makes for better software and a stronger Internet we need a basic understanding of the technical underpinnings of the case.

APIs are precisely specified computer instructions for communicating information between software components. APIs work as interfaces, defining the precise inputs and outputs of code snippets called "methods." A method is a bit of code which performs some calculation, like calculating a tangent or sorting a list. APIs perform the basic function of specifying what information each method needs to perform its calculation and what information it produces as the output. Developers use and extend APIs to build software.

At issue in the Google-Oracle case are 37 packages, or functionally related blocks of code, which Google mimicked when it created Android. Google did not copy Oracle's code outright. Instead Google mimicked the Oracle APIs to structure the interfaces with code Google had written itself. This is a common practice in software development. For example, say an entrepreneurial developer devised a brilliant new method of encrypting your data. A competitor's code might look like this:

```
public char encryptChar(char foo) {
    return foo; // use poor security
}
```

While our entrepreneurial developer's new method might look like this:

```
public char encryptChar(char foo) {
    return foo+'c';  // use Caesar cipher
}
```

Notice how the first line, called the header or method declaration, is the same between the competitor's code and the new code. This is because both require precisely the same inputs and outputs to function. The second line, starting with return, is different. That line performs the more creative function of actually encrypting characters. Using the same method declaration makes it easy for other software to switch between the old encryptChar code and the new. This increases the portability of software code and allows our entrepreneurial developer to compete more readily with the established code.

Similarly, Google mimicked only the method declarations in Oracle's APIs, not Oracle's underlying code itself. The method declaration is merely functional, defining inputs and outputs. The mimicry allows Android developers to use the familiar Oracle framework. Developers familiar with Oracle's way of doing things can more easily adopt the Android platform.

The end result is that open APIs, unencumbered by copyright, allow developers to more easily write software for multiple environments. Empowering developers to create great software on any

platform leads to competition and innovation with respect to both platforms and software. Users get more choice between platforms (because their favorite software is more readily available on multiple platforms) and more choice between software (because their favorite platforms more readily run a broad range of software). By contrast, copyright protection for APIs would prevent new platforms from harnessing familiar frameworks, erecting a barrier to development. Forcing developers to learn a new custom API would increase the time and expense of developing software, putting new platforms at a disadvantage

In short, Judge Alsup's ruling empowers developers to write the best software for the best platform. The ruling prevents API lock-in, increases competition, and fosters innovation. It is a win for software everywhere.

For updates, follow us on Twitter at <a>@CenDemTech [3].

- •
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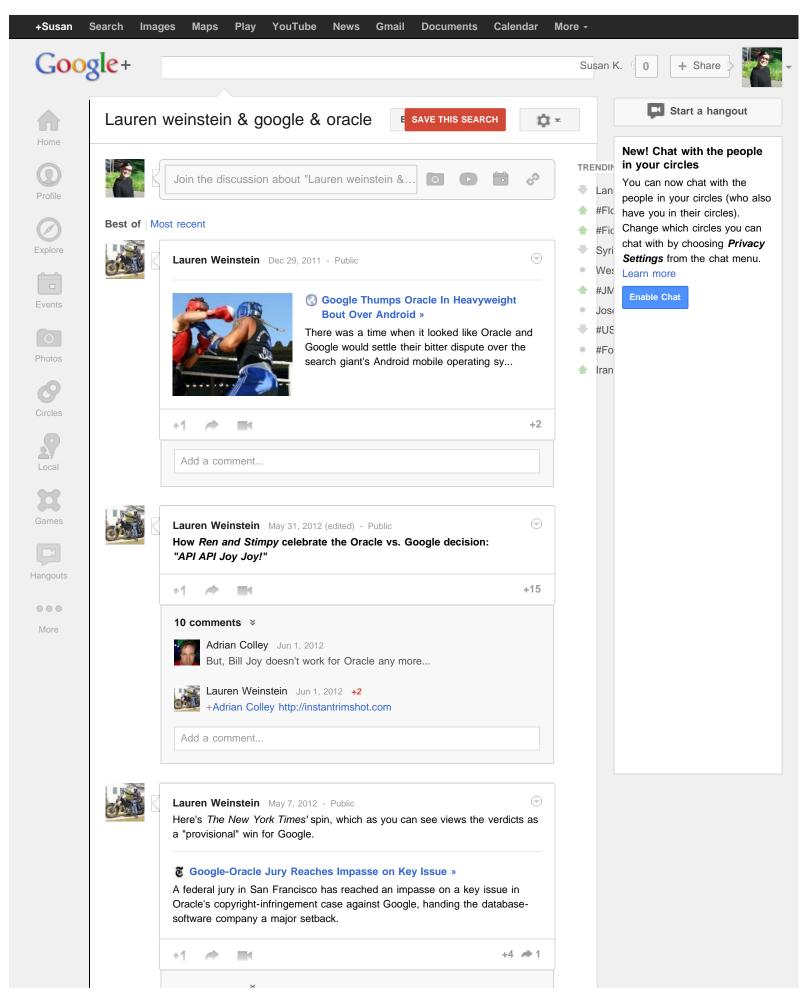
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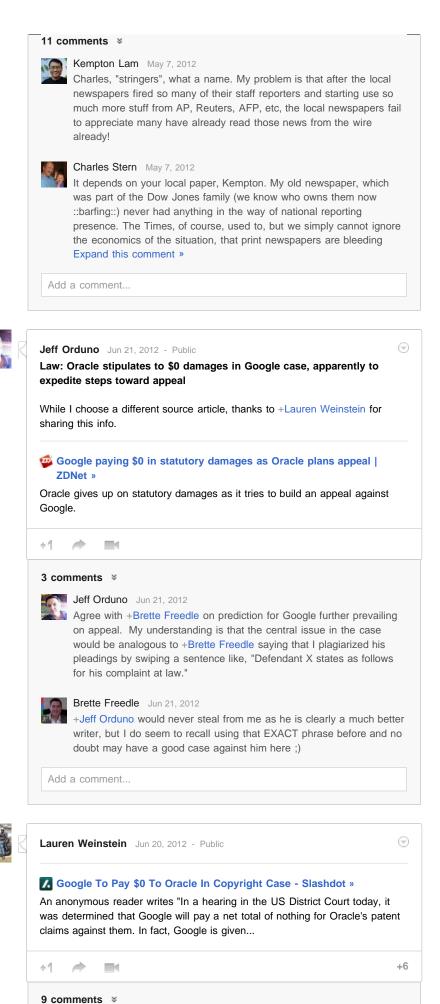
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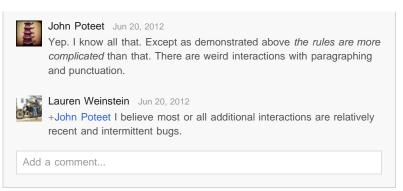
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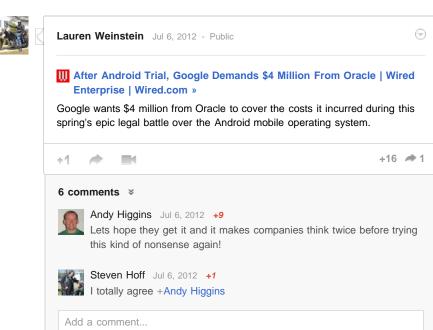
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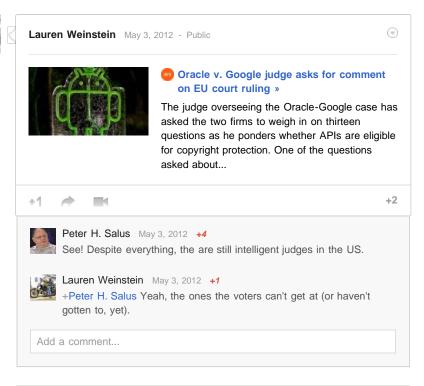
EXHIBIT LL





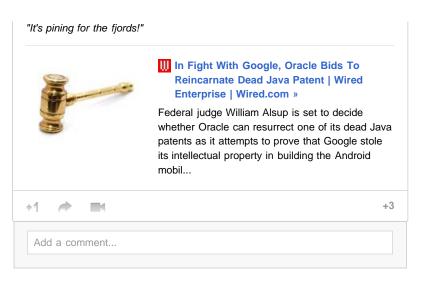








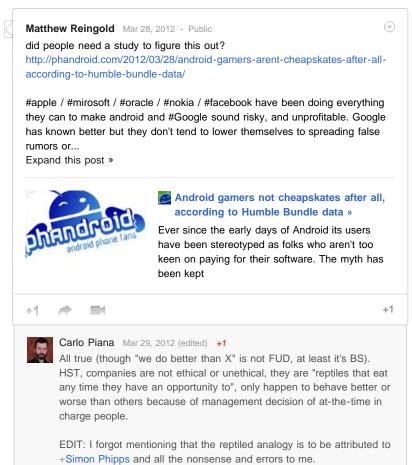
Lauren Weinstein Apr 25, 2012 - Public
I initially read this as having something to do with reviving a *dead parrot*.

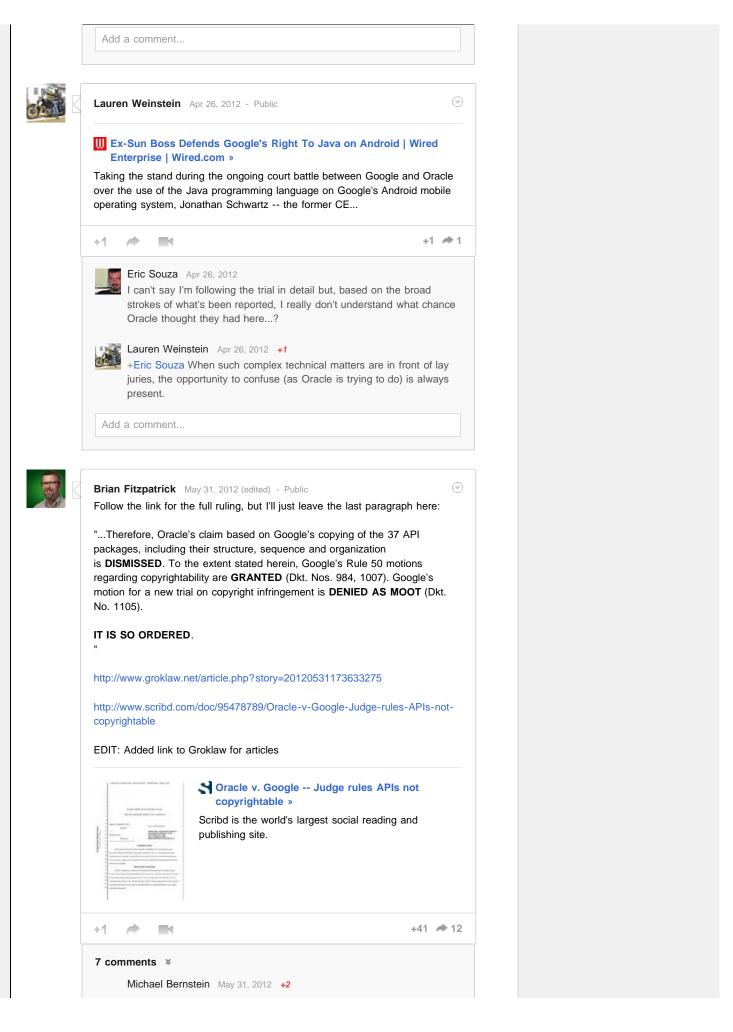






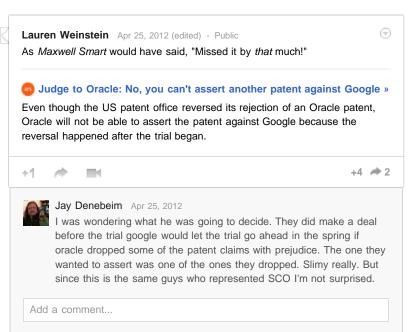




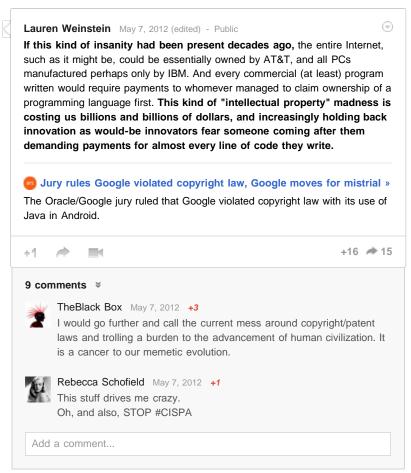














Lauren Weinstein May 4, 2012 - Public



I will make an absolutely certain prediction about the outcome of the Oracle-Google trial. Guaranteed. 100%. You can bet your life on it. APPEAL.

+1

+7 🏓 1

6 comments ⋄



Richard Sexton May 4, 2012

Well duh, but as of today it's MISTRIAL. The jury was hung, but resolved all but one point an will try again monday.



James Salsman May 4, 2012 (edited)

Civil trial judgements are decided by the majority of the jury. Why is the judge asking for them to reach unanimity?

Add a comment...



Lauren Weinstein May 11, 2012 - Public



Executive Summary: Oracle becoming increasingly desperate



M Groklaw - Oracle's Denied Motion For JMOL on Fair Use, as text ~ pj Updated »

Oracle's Denied Motion For JMOL on Fair Use, as text ~ pj Updated. Friday, May 11 2012 @ 09:54 AM EDT. I thought you'd like to see the Oracle motion that the Hon. William Alsup denied Wednesda...





+1

4 comments ⋄



Jay Denebeim May 11, 2012 +1

You know I've been following this case and the SCO one very closely forever. Something someone mentioned on Groklaw really struck with me. As most people are aware the same law firm that represented SCO is representing Oracle. Same slimeball tricks, although this judge isn't letting them get away with nearly as much as they did in the SCO Expand this comment »



Wendy Cockcroft May 11, 2012 +1

Troll logic, that's why. Oracle are trolls. Trolling is what they do, and they don't know of any other way of doing things. It's like telling a waterfall to flow horizontally. It won't happen.

As I've said I don't know how many times, basing your business model on IPR enforcement can only end in tears. Reform the IPR laws that make this nonsense possible and problem solved.

Add a comment...



Lauren Weinstein Oct 2, 2011 - Public



Somehow, given the overall state of the economy, something about this kind of celebratory atmosphere strikes me as crass. Am I wrong?

"They have their expense accounts," said Larry Bouchard, general manager, "so their tastes buds are elevated."



Transistor Oracle OpenWorld Convention Engulfs San Francisco »

Oracle's technology for storing and managing data is at the heart of the modern business world, and its annual event draws 45,000 people, and their expense accounts.





+2 🎮 1

16 comments ⋄



mathew murphy Oct 3, 2011

Yeah, I also remember how the Gates Foundation was announced just after a leaked Microsoft PR department memo to Gates suggesting that he should do something charitable to improve their image.



David Scheiner Oct 3, 2011

I find this really hard to say, because it is going to come across like I'm one of those libertarian wackos you find on this site, but I really don't think lumping Larry Ellison and other tech gurus in with the kinds of people who ruined this economy is very productive. Tech innovators are not the ones who ruined the economy. Perhaps we need a more distributive economy. In fact, not perhaps, we definitely do. But in the meantime, let's not assume that everyone who has enjoyed the fruits of massive success has done so at the expense of others in quite the same way as, say, the Chairman of Goldman Sachs.

Add a comment...



Lauren Weinstein Feb 22, 2012 (edited) - Public



Microsoft appears to be unsatisfied with only making false privacy claims against Google, now they're extending their bizarre anti-Google video propaganda campaign (using YouTube, no less!) Be sure to check out the Like/Dislike ratio on this one. Remember, a +1 on this posting is a vote against Microsoft propaganda!









+16 🗪 2

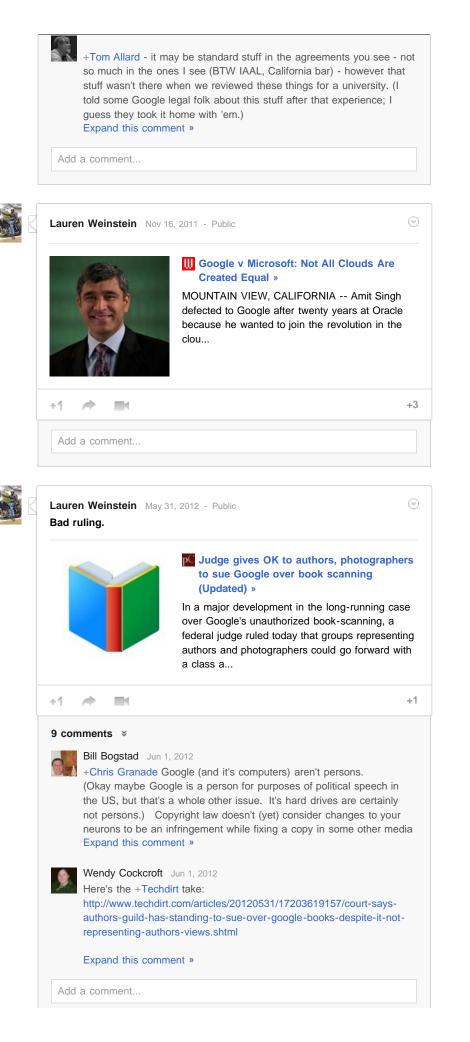
27 comments *



Tom Allard Feb 22, 2012 +1

+Karl Auerbach That "no high risk" stuff is pretty boilerplate terminology. You can even find it in some Microsoft licenses: http://download.microsoft.com/download/3/c/4/3c46d5a4-b10a-4f09-8594-700cc44a2860/CE%20Spark%20EULA.pdf

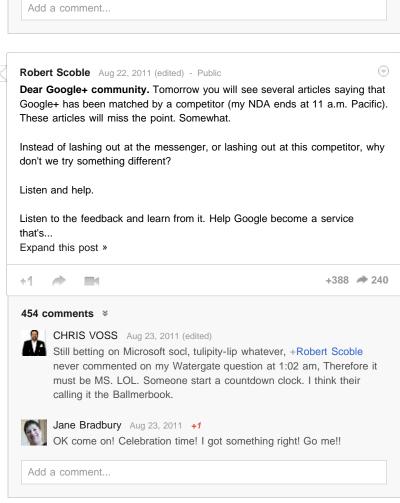
Karl Auerbach Feb 22, 2012 (edited)



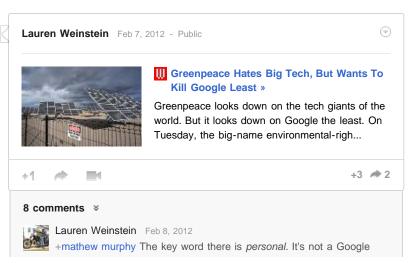


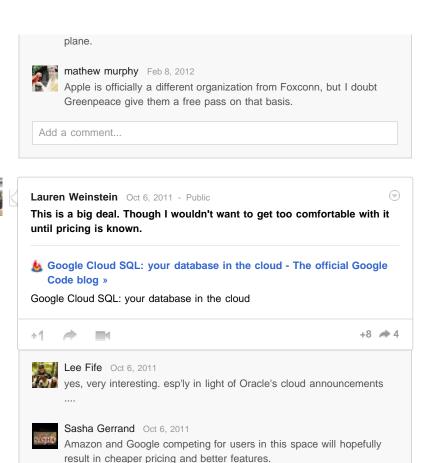


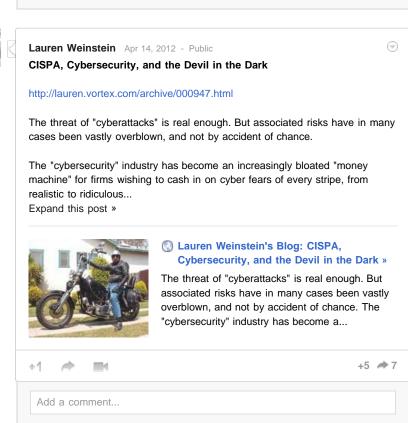




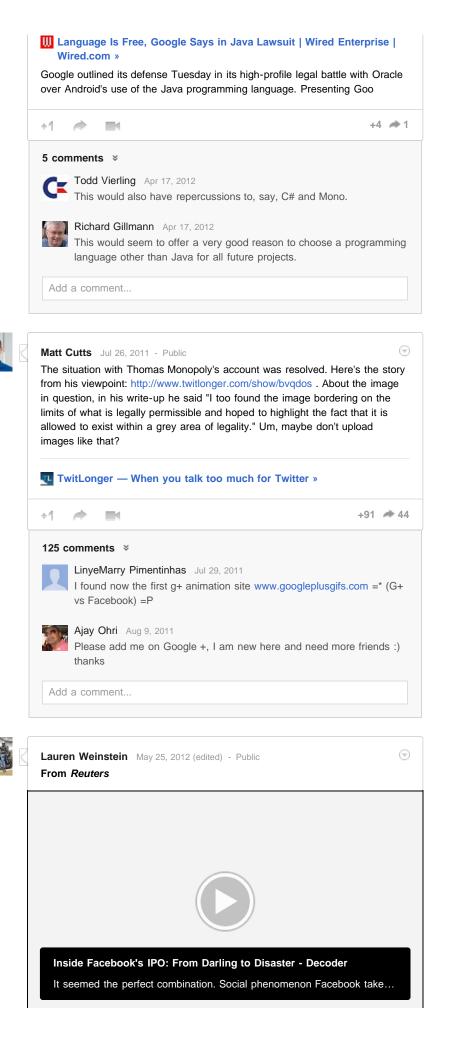






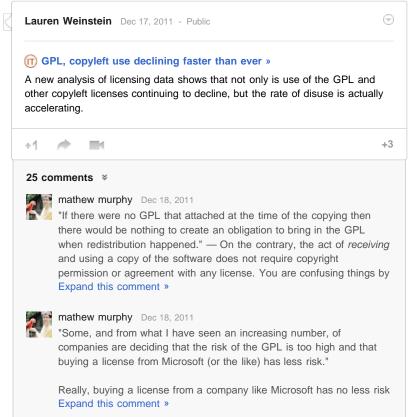


Add a comment...









Add a comment...



Brian Fitzpatrick May 25, 2012 (edited) - Public

Normally I'd say that this is hilarious, but it's actually a little sad.

Nikola Tesla++

http://theoatmeal.com/comics/tesla

#tesla

EDIT 1: I am not related in any way to Catherine Fitzpatrick.

EDIT 2: I hereby declare this thread to be the best thing on the internet.



Why Nikola Tesla was the greatest geek who ever lived - The Oatmeal »

Additional notes from the author: If you want to learn more about Tesla, I highly recommend reading Tesla: Man Out of Time; Also, this Badass of the week by Ben Thompson is what originally inspired me...





+91 🗪 72

250 comments ⋄



Tim Nguyen Jun 21, 2012

Ma'am, I stand behind my original spelling.

http://www.urbandictionary.com/define.php?term=Kerplakistan



William Carbone Jul 26, 2012

Without Tesla's AC wouldn't we, perhaps, have advanced DC power now, including amazing batteries for solar applications?

Add a comment...



Max Huijgen Jan 17, 2012 (edited) - Public

Google will join SOPA protest: the 'pirate master' hits back! Google will support Wikipedia, Reddit and numerous other sites by using its homepage: how the battle unrolls

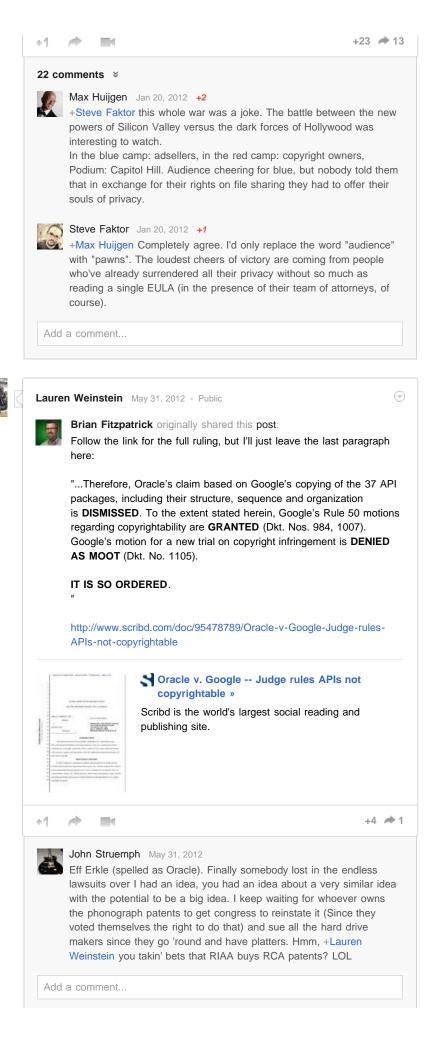
After being called out by Rupert Murdoch, chairman of News Corp. for being the ring runner of a group of 'Silicon Valley paymasters' and tweeting the world that Google was the 'pirate master', Mountain View hits back.

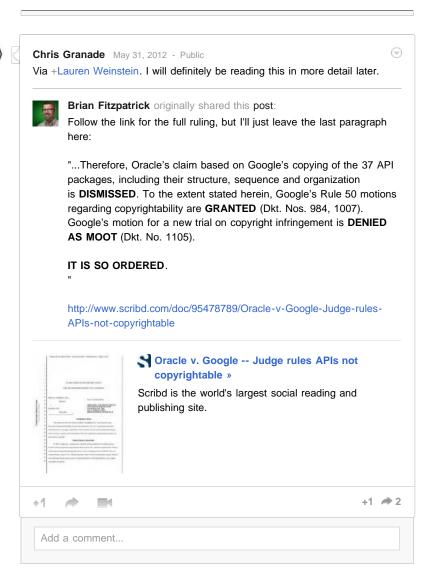
So the battle ... Expand this post »

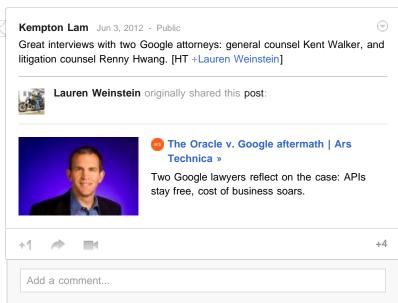


Google will protest SOPA using popular home page »

The search giant will post an anti-SOPA link on home page tomorrow as part of a unified protest planned by the tech sector. Read this blog post by Greg Sandoval on Media Maverick.

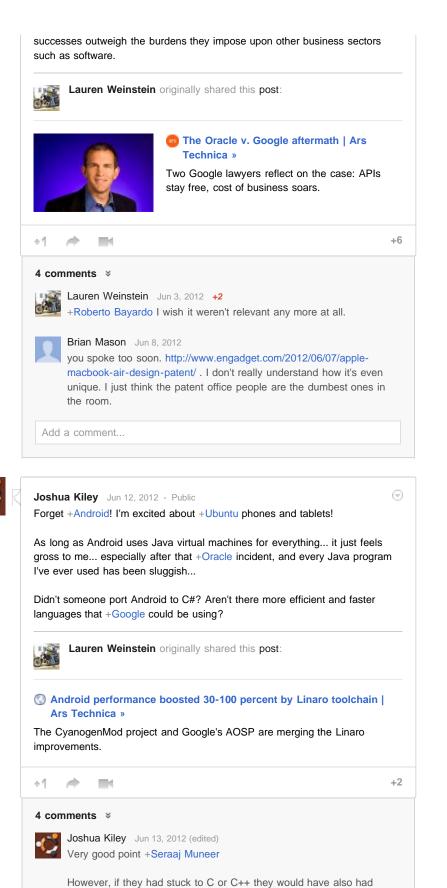






I sometimes wonder if patents in general (not just software patents) have outlived their usefulness. I believe patents have contributed to innovation in certain areas such as pharmaceuticals. But it's tough to say whether those

Roberto Bayardo Jun 3, 2012 - Public

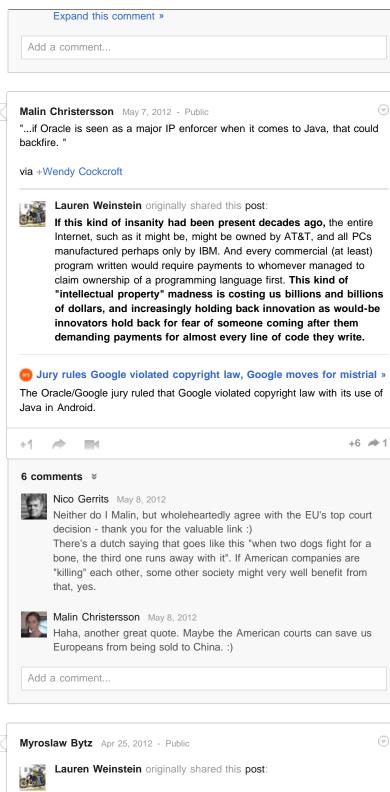


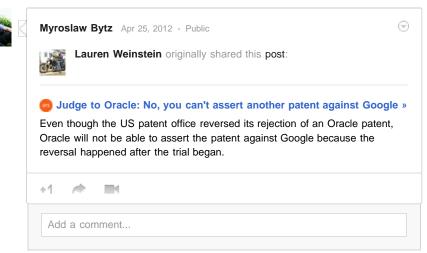
I suspect that Google chose to use Java so that they could restrict the capabilities of 3rd party apps without the need for an Apple style app gestapo, so I'm not one to make excuses for it, but Dalvik has a fairly highly optimized JIT compiler, and a lot of operations happen at near-

every iPhone developer, no?

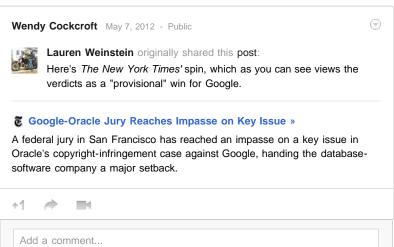
Steve Keate Jun 13, 2012 +1

native speed already.

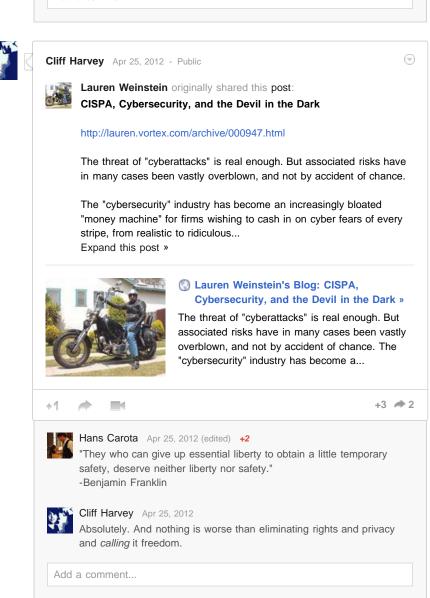














Gary Walker Apr 17, 2012 - Public

Oracle's position is so completely specious...but this is going to be a tough one to explain to the average judge, much less a jury.

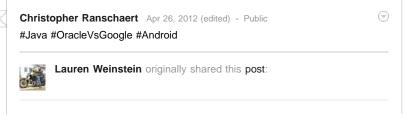


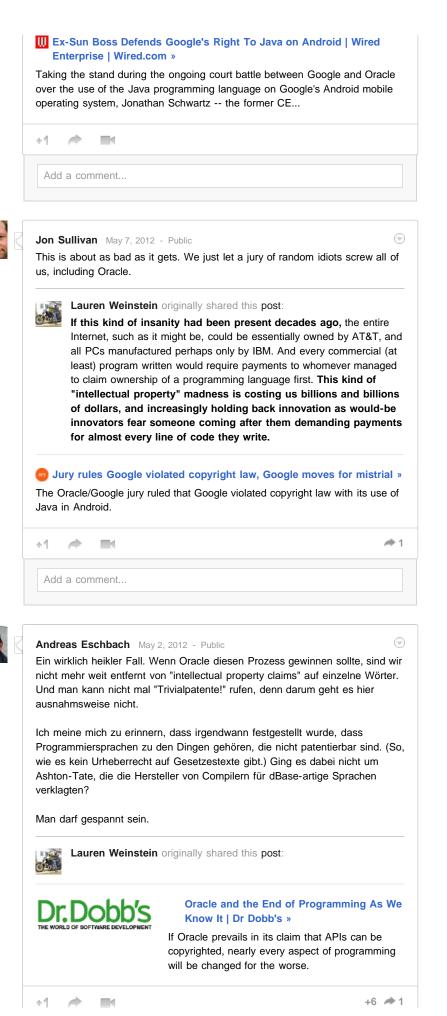
Lauren Weinstein originally shared this post:

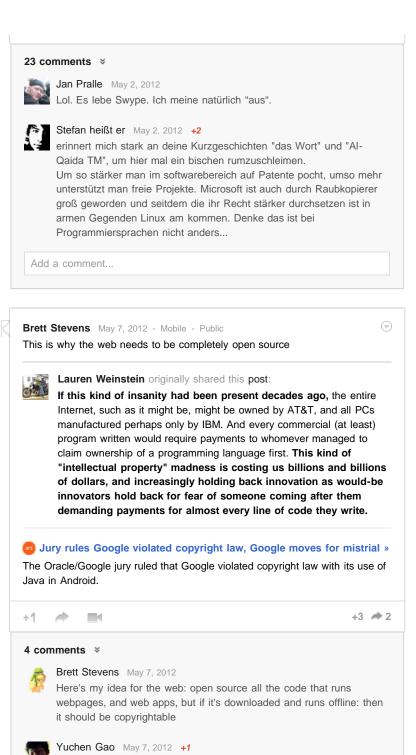














Andrew McLaughlin Jul 9, 2011 (edited) - Public

just let it run its course.

Add a comment...

It still amazes me that many right-wingers have been persuaded to oppose net neutrality (i.e., oppose a free and open Internet) and align themselves with telecom censorship and customer surveillance. The pro-freedom position is to enforce net neutrality -- a negative rule that says, simply, that Americans, not their cable, telecom, and wireless companies, get to decide what they do on the Internet. Why, then, would a conservative oppose a free and open Internet in America? I can only surmise that it's the product of a reflexive defense of familiar big corporate interests -- even at the expense of newer American

All I want is for corporations to stop interfering with the hivemind and

innovators.

These robots capture some of the absurdity of the right-wing's incoherence and confusion.



Lauren Weinstein originally shared this post:











51 comments ≥



Catherine Fitzpatrick Jul 12, 2011 (edited)

@Andrew, as I think of it, your thesis is really hide-bound in your prejudices about what conservatives think -- and your unwillingness to conceive that liberals -- as distinct from "progressives" -- could see "net neutrality" not as "freedom-bringing" but as "freedom-limitation." Your statement, "I can only surmise that it's the product of a reflexive Expand this comment »



Todd Neumann Jul 15, 2011 (edited)

Andrew that's because our country only looks out for wall-street and not main-street. Greed is not just confined to the right or left though. They all serve corporate America's interests first. That's what the problem is. However, this stifles innovation and when you ,let's say the Att-tmobile merger, it just becomes more obvious.

Add a comment...



John Lieske Apr 26, 2012 (edited) - Public



I've been looking for a poignant, detailed, yet concise way of explaining my opposition to the #CISPA legislation going before Congress. This post does that exactly. For the tl;dr crowd, look at it this way:

Do you dislike the intrusiveness of the TSA? Are you tired of hearing story after story about how some worker for the TSA abused the authority given them by poorly-thought-out legislation and ... Expand this post »



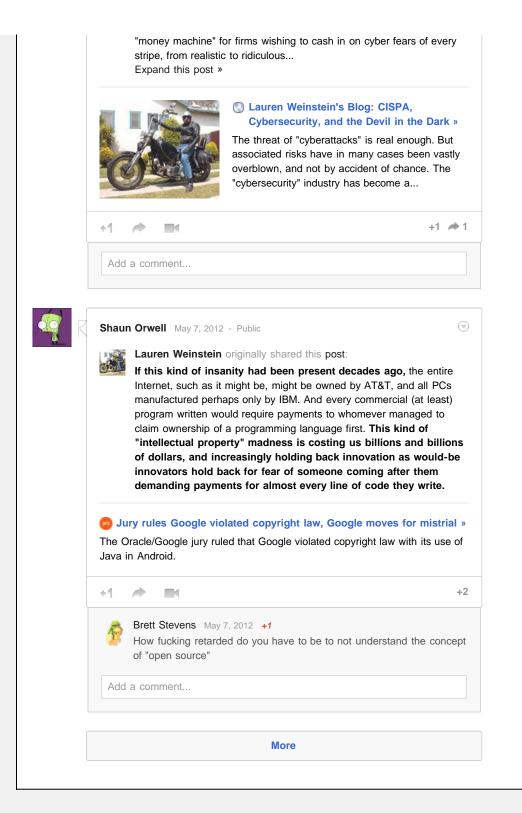
Lauren Weinstein originally shared this post:

CISPA, Cybersecurity, and the Devil in the Dark

http://lauren.vortex.com/archive/000947.html

The threat of "cyberattacks" is real enough. But associated risks have in many cases been vastly overblown, and not by accident of chance.

The "cybersecurity" industry has become an increasingly bloated



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Apple, Samsung Chiefs Pick Up Their Marbles and Go Home

By Ryan Radia
May 23, 2012
Originally published in E-Commerce Times
Print | Email | Share

From Erika Morphy's article in E-Commerce Times:

Judges will often order two sides to try mediation before a legal action, Ryan Radia, an analyst with the Competitive Enterprise Institute, told the E-Commerce Times.

Ordering the actual CEOs to try to resolve their differences is a bit unusual, but not unheard of. In fact, the judge hearing the Oracle (Nasdaq: ORCL) Google (Nasdaq: GOOG) dispute reportedly had Oracle CEO Larry Ellison and Google CEO Larry Page meet face-to-face to try to resolve their differences.

Such attempts usually are not successful though, Radia said. "If companies want to settle or stay out of a courtroom, they don't need to be nudged to do so by a judge."

Given the stakes of this dispute, it is especially unlikely Apple and Samsung would ever voluntarily come to an agreement, he added.

"I think they both feel they have the stronger argument and can win the case," Radia said. "Usually firms settle when one side is clearly weaker and will probably lose in court"

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