UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Appeal No. 2007-1130
(Serial No. 08/833,892)

IN RE BERNARD L. BILSKI AND RAND A. WARSAW

Appeal from the United States Patent and Trademark Office,
Board of Patent Appeals and Interferences

Amicus Curiae Brief of End Software Patents in Support of Appellee

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April 4, 2008

Certificate of Interest (Fed Cir. Rule 47.4)

(1) The End Software Patents project and the Free Software Foundation, Inc.

(2) Same as (1).

(3) The End Software Patents project is an unincorporated association supported in part by the Free Software Foundation, Inc., a Massachusetts not-for-profit corporation.

(4) Burns & Levinson LLP and Jerry Cohen, Esq.

April 4, 2008

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The End Software Patents project ("ESP") is a project supported by the authors of a wide range of software used around the globe, ranging from compilers to Internet router software to desktop email readers. Being a group of active practitioners in computing, ESP is vitally interested in ensuring that research and development for software continue at a rapid pace. As its name suggests, it opposes the patentability of computer software and submits this brief in favor of affirmance of the decision below pursuant to the February 15, 2008 Order of the Court herein. The authority for filing this brief is provided by Dr. Ben Klemens, Executive Director of ESP and by Peter T. Brown, executive Director of the Free Software Foundation, Inc.

Summary of Argument

The amicus takes the position that computer software is not patentable subject matter, and thus would answer the questions posed in the February 15 Order, (1) no; (2) to be patentable, a process must involve significant physical activity; (3) no; (4) yes; and (5) the cases should be reversed to the extent that they support the patentability of software without substantial physical manifestation.

It is clear that an information processing algorithm with no physical manifestation of any sort is beyond the bounds of patentability. Further, the Supreme Court repeatedly ruled that an information processing algorithm with

"insignificant postsolution activity" appended should still not be patentable. Notably, claims for an information processing algorithm loaded in a standard way onto a standard computer were repeatedly ruled to be invalid.

Diamond v. Diehr, 450 U.S. 175, 182 (1981), set forth a clear criterion that information processing algorithms dressed in physical terminology are not patent-eligible, but other more involved types of software-on-a-machine, when "considered as a whole," could be. Some rulings, including *AT&T Corp. v. Excel Communications Inc.*, 172 F.3d 1352 (Fed. Cir. 1999), used only the second half of this balance, and thus invented a doctrine that a claim including software must be "taken as a whole" when examined for patent-eligibility.

By using the "taken as a whole" half of *Diehr* as the entire ruling, examiners would be barred from inquiring whether claims such as the Bilski patent are merely information processing claims recited in a manner that circumvents limitations on patent-eligibility, or are *bona fide* patent-eligible inventions. Instead, examiners must accept any correctly-worded claim as patent-eligible.

Three Supreme Court rulings took pains to exclude from patentability claims for information processing with a trivial physical step for good reason: allowing such patents has perverse economic effects. Litigation regarding software is increasingly targeted not at producers in the "information processing sector," but at parties in the general economy independently re-inventing course-of-business

software. The increased risk of liability brought about by the expansion of patent law to include software and business methods has sparked debate about the validity of the patent system at large.

Thus, there is wisdom in the Supreme Court's repeated attempts to ensure that information processing algorithms remain outside the scope of patent law, even in manifestations where "insignificant postsolution activity" is appended. Their limitations on patent-eligible subject matter should be respected and enforced.

Argument

I. THE SUPREME COURT HAS REPEATEDLY RULED THAT INFORMATION PROCESSING ALGORITHMS WITH "INSIGNIFICANT POSTSOLUTION ACTIVITY" ARE BARRED FROM PATENT-ELIGIBILITY.

There is little controversy that information processing algorithms in their pure, ethereal form, with no physical component of any sort, are excluded from patentability. For example, the BPAI recently noted that ". . . there is no authority that we know of which permits software per se to be considered statutory within 35 U.S.C. § 101." *Ex parte Yang-Huffman*, Appeal 2007-2130, slip op. at 3 (Bd. Pat. App. & Interf. Oct. 4, 2007) (non-precedential).

However, what is under debate is how much of a physical manifestation an information processing algorithm must have before it is patentable. For example, the Bilski patent is intended to be read as information processing with a not-novel,

obvious physical step appended. Another common example, the so-called *Beauregard claim*, is for a standard computer upon which is loaded a new work of software.

The Supreme Court could not have been clearer in its rejection of such claims from patent-eligibility.

Its opinion in *Gottschalk v. Benson*, 409 U.S. 63 (1972) quoted approvingly the 1966 President's Commission on the Patent System:

> . . . . Direct attempts to patent programs have been rejected on the ground of nonstatutory subject matter. Indirect attempts to obtain patents and avoid the rejection, by drafting claims as a process, or a machine or components thereof programmed in a given manner, rather than as a program itself, have confused the issue further and should not be permitted.

Id. at 72 n. 5, *quoting* "To Promote the Progress of ... Useful Arts," Report of the President's Commission on the Patent System at 13 (1966).

Parker v Flook, 437 U.S. 584 (1978), made a more general statement, reiterating the position that loading an algorithm onto a standard computer is merely an attempt to circumvent recognized limitations:

> The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance. A competent draftsman could attach some form of post-solution activity to almost any mathematical formula. . . .

Id. at 590.

The conclusion of *Diamond v. Diehr*, 450 U.S. 175 (1981) directly reiterated the above, while on the other hand acknowledging that *bona fide* patent-eligible

inventions may include a software component. It is well worth reprinting the bulk of the conclusion:

> . . . . A mathematical formula as such is not accorded the protection of our patent laws, *Gottschalk* v. *Benson*, 409 U.S. 63 (1972), and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment. *Parker* v. *Flook*, 437 U.S. 584 (1978). Similarly, insignificant postsolution activity will not transform an unpatentable principle into a patentable process. *Ibid.* To hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection. On the other hand, when a claim containing a mathematical formula implements or applies that formula in a structure or process which, when *considered as a whole*, is performing a function which the patent laws were designed to protect (*e. g.*, transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101. . . .

Id. at 191-92 (notes omitted, emphasis added).

In all cases, the Court expressed disdain for allowing patents on software loaded onto a standard computer, repeatedly referring to it as an "insignificant," "conventional or obvious" modification of the base formula.

A. The "Considered as a Whole" Doctrine Is a Misleading Reading of Supreme Court Precedent.

The *Diehr* ruling takes an *on the one hand/on the other hand* form, contrasting designs that have only "insignificant postsolution activity" against processes which, "considered as a whole," fall under the scope of patent-eligible subject matter. The phrase "considered as a whole" does not appear in 35 U.S.C.: it originates in the above-quoted statement from *Diehr*, 450 U.S. at 192, and therefore its meaning should be evaluated in the context of the balance in which it was

presented.

The full statement recommends that an inquiry be made into whether a claimed invention is information processing with "insignificant postsolution activity," acknowledging that the inquiry may lead to the conclusion that the invention involves significantly more and should be patent-eligible. This inquiry is repeatedly carried out in the text of the *Diehr* ruling, such as determining that the equation-plus-alarm claim that was the subject of *Flook* was merely an attempt to patent an equation, while Diehr's machine went well beyond the underlying software.

A set of rulings by this Court, including *In re Alappat*, 33 F.3d 1526, 1543 (Fed. Cir. 1994), *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1374 n. 6 (Fed. Cir. 1999), and *AT&T Corp. v. Excel Communications Inc.*, 172 F.3d 1352, 1356-59 (Fed. Cir. 1999), are based only on the second half of the *Diehr* balance. That is, these rulings state that a claim must be considered "as a whole," and wholly disregard the counterbalancing statement that some inventions are merely formulae with "insignificant postsolution activity."

The result is an extreme doctrine that has damaged patent law, and allowed the patentability of elements that would not be patentable under any of the above Supreme Court rulings. For example, under the "taken as a whole" doctrine, the Bilski claim and the typical *Beauregard claim* may not be excluded from patent-

eligibility, even though they could easily be dissected into an information processing step and "insignificant postsolution activity." Taken as a whole, *Flook's* claim would be read as a patent-eligible alarm, not as the dressed-up equation that the *Diehr* ruling took it to be.

B. The Section 103 Inquiry Could Achieve the Same Effect, But Is Also Blocked by the "As a Whole" Doctrine.

The above discussion of the § 101 inquiry advises a dissection of a patent application that is in many ways comparable to the inquiry of novelty and non-obviousness under 35 U.S.C. § 103.

Novel mathematics is outside the scope of patent-eligibility. In fact, it is to be taken as prior art: "Whether the [mathematical] algorithm was in fact known or unknown at the time of the claimed invention...it is treated as though it were a familiar part of the prior art." *Parker v Flook,* 437 U.S. 584 (1978) (internal citation omitted).

When evaluating the non-obviousness of a patent application, *Graham v. John Deere Co. of Kansas City*, 383 U. S. 1 (1965), the following process is prescribed:

> . . . . Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. . . .

Id. at 17.

One expects that an examiner will apply the same component-separation process to a patent claiming information processing and physical steps as any other patent: hold back the patent-ineligible information processing steps and inquire whether the remaining contribution is novel and non-obvious. But once again, the "taken as a whole" doctrine foils the inquiry, and forces examiners to *not* ascertain the difference between the information processing elements and the remainder of the invention.

As the *Diehr* ruling acknowledges, the combination of information processing and machinery is sometimes greater than the sum of its parts; the same could be true of combinations in a §103 context. But in a parallel manner, the ruling in *KSR v. Teleflex* points out that if a combination of elements in the prior art is "obvious to try" then the combination does not pass the conditions of §103. Given a set of rules for information processing, such as Bilski's insurance scheme or any computationally-intensive number-crunching scheme, it is blatantly obvious to try loading the algorithm onto a standard computer. In fact, in *Northern Telecom v. Datapoint*, 908 F.2d 931, 940-941 (1990), the court ruled that loading an algorithm onto a computer is a "mere clerical function." Thus, a software-plus-computer claim consists of one piece of prior art (an information processing algorithm), a second piece of prior art (a standard, unmodified computer), and the obvious-to-try combination of one with the other.

Thus, the amicus suggests that one could conform to the repeated statements by the Supreme Court that claims for information processing with trivial physical dressing be excluded from patent-eligibility either via a standard §103 analysis or via a comparable dissection at the §101 stage. However, either method requires striking down the artificial doctrine that inventions with software—and only inventions with software—must be "considered as a whole" when examined.

II. PATENTS ARE ILL-SUITED FOR INFORMATION PROCESSING ALGORITHMS AND HAVE CAUSED REAL ECONOMIC HARM.

There is reason for the patent-ineligibility of information processing algorithms, found in the Constitution: patent law has a mandate to "promote the progress of science and useful arts." U.S. Constitution, Art I §1(8). "This is the *standard* expressed in the Constitution and it may not be ignored." *Graham v. John Deere*, 383 U.S. 1, 6 (1966) (emphasis in original).

The economics of information processing is substantively different from that of physical materials processing, such that patents on information processing create progress-hindering problems that are not created by physical materials-based patents.

There is a pharmaceutical sector of the economy, with a few dozen companies; there is an automotive sector of the economy, which is also well-defined; but the "information processing sector" is the entire economy. Every

organization in the world has information on hand that needs collating and presenting. Thus, allowing patents on information processing creates infringement risk not for a small set of companies who should know the patent literature, but for all companies everywhere. With literally millions of organizations potentially re-inventing any work of software, the holder of a software patent need only search the Internet to find a party to sue. Such opportunistic, unproductive lawsuits are a hallmark of the software patent.

The massive-scale liability created by information processing patents is not merely a theoretical prediction. Over the last few months alone, the Amicus tallied over fifty non-software companies being sued for infringement regarding their web site or other course-of-business software, such as the Green Bay Packers, McDonald's, Dole Foods, Kraft Foods, Caterpillar, J Crew, Burlington Coat Factory, Wal-Mart, and Tire Kingdom. *See* *http://endsoftpatents.org/a-litany-of-lawsuits* (visited April 3, 2008). Even this court is probably infringing some number of software patents, because it is has produced some portion of the software underlying http://www.cafc.uscourts.gov/.

In fact, the last decade of software patentability has brought about so many lawsuits considered to be onerous or frivolous that they have inspired Congressional action and caused many persons having ordinary skill in the art to question the entire patent system. As well as the above-mentioned suits spanning

the U.S. economy, famous patents that were the rallying point for patent opposition, such as the "Blackberry patents" from *NTP v. Research in Motion, Ltd.*, 397 F. Supp. 2d 785 (E.D. Va. 2005), or the correlation claim of *Laboratory Corp. of America Holdings v. Metabolite Laboratories, Inc.*, 548 U.S. 124 (2007), are all patents on information plus insignificant postsolution activity. The same could be said of many of the key claims in DataTreasury's U.S. Patents Nos. 5,910,988 and 6,032,137, which are an extreme example of the cost of widespread re-invention of information processing methods: having been independently re-invented by dozens of organizations, the Congressional Budget Office estimates that DataTreasury's patents will cost consumers $1 billion. Congressional Budget Cost Estimate, Patent Reform Act of 2007, S. 1145, at 6 (Feb. 15, 2008), available at http://www.cbo.gov/ftpdocs/89xx/doc8981/s1145.pdf (visited April 3, 2008). All of these patents should be excluded under the Supreme Court's rulings, yet they are currently allowed to stand under the "considered as a whole" doctrine, and thus create policy problems and debates.

The significantly different character of the information processing economy, as opposed to the relatively neatly-demarcated physical materials processing industries, indicates that the standard of not allowing patents to be granted for information processing is the correct, constitutionally appropriate standard. The Supreme Court's repeated efforts to prevent claims for information processing with

"insignificant postsolution activity" correctly maintains a distinction that guarantees that patents will promote, rather than hinder, progress.

Conclusion

The Supreme Court ruled three times that software loaded onto a standard computer should not be patentable, explaining that an inquiry must be made as to whether an invention is simply an information processing step plus "insignificant postsolution activity" or is a device which, applying the "considered as a whole" approach, goes beyond such a bare, patent-ineligible, minimum.

A series of rulings ignored all but the second half of this inquiry, thus dictating that any claim involving information processing must be taken as a whole, even in situations where other types of patent-ineligible elements would be subtracted for the purposes of examination.

By barring examiners from making the inquiry required by Supreme Court precedent, patents of a type that were clearly and directly excluded by Supreme Court precedent are being routinely granted. This has had disastrous effects, creating liability for such a broad range of organizations, across the entire economy, that it has set off efforts to reform the entire patent system. These effects can readily be reversed by re-establishing the Supreme Court's rule that information processing with "insignificant postsolution activity" is barred from patent-eligibility.

Respectfully submitted,

April 4, 2008

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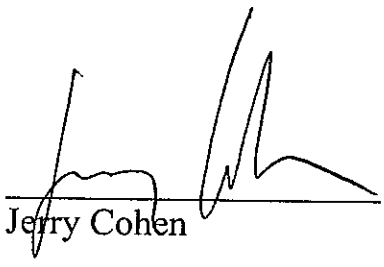

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