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**United States Court of Appeals**  
*for the*  
**Federal Circuit**

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CLS BANK INTERNATIONAL,

*Plaintiff-Appellee,*

– and –

CLS SERVICES LTD.,

*Counterclaim-Defendant-Appellee,*

– v. –

ALICE CORPORATION PTY. LTD.,

*Defendant-Appellant.*

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APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE DISTRICT  
OF COLUMBIA IN CASE NO. 07-CV-0974, JUDGE ROSEMARY M. COLLYER

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**BRIEF OF KONINKLIJKE PHILIPS ELECTRONICS NV AS  
*AMICUS CURIAE*, SUPPORTING NEITHER PARTY**

JACK E. HAKEN  
*Attorney of Record*

MICHAEL FUERCH  
PAUL IM  
DAVID SCHREIBER

PHILIPS INTELLECTUAL PROPERTY  
AND STANDARDS  
345 Scarborough Road  
P.O. Box 3001  
Briarcliff Manor, New York 10510  
(914) 333-9650  
jack.e.haken@philips.com

*Attorneys for Amicus Curiae*

November 29, 2012

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## CERTIFICATE OF CORPORATE INTEREST

The undersigned attorney certifies as follows:

1. The full name of every party or amicus represented by me is:

Koninklijke Philips Electronics N.V. (aka Royal Philips Electronics  
NV)

2. The name of the real party in interest is

None

3. All parent corporations and publicly held companies that own 10  
percent or more of the stock of the party represented by me are:

None

4. The names of all law firms and partners or associates that are expected  
to appear in this Court are:

- a. Jack E. Haken
- b. Michael Fuerch
- c. Paul Im
- d. David Schreiber

November 28, 2012



Jack E. Haken

Attorney for *Amicus Curiae*

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## STATEMENT OF INTEREST OF THE AMICI CURIAE

*Amici Curiae* Koninklijke Philips Electronics NV is the parent corporation of a worldwide family of companies (“Philips”). Philips has been inventing and manufacturing electronic and electrical products for over 120 years and is one of the largest users of the patent system in the United States and other industrialized countries.

Last year Philips filed U.S. patent applications for approximately 1,000 inventions. Scientists and engineers at our laboratories have made pioneering advances in the fields of high efficiency lighting, medical diagnosis and imaging, high definition television, optical CD and DVD recording, and digital rights management. Our annual income from patent licensing activities is in excess of five hundred million dollars.

Philips is investing billions of dollars to build its businesses in the medical diagnostics, patient monitoring, and digital rights management sectors. We are keenly interested in assuring that the U.S. patent system continues to provide protection and economic incentives for continued research in these fields. In our experience, effective patent protection can best be achieved when the patent system provides a sufficient spectrum of

broad patent claims to assure that unauthorized users of our inventions can be charged with direct infringement.

On October 9, 2012 this Court requested briefing by the parties to address two important questions and indicated that briefs of amicus curiae on the questions may be filed without consent and leave of the Court.<sup>1</sup>

## SHORT SUMMARY OF THE ARGUMENT

*Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012) is controlling law. An idea that is otherwise abstract does not automatically become patent-eligible by simply limiting claims to a particular technological environment or by adding insignificant well-known, well-understood post-solution activities.

The use of computer machinery, controllers and systems to perform computations and execute the steps of logical algorithms is now so pervasive that the courts can and should take judicial notice that they are *prima facie* well-known and well-understood. In cases where an applicant or patentee

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<sup>1</sup> This brief was not authored in whole or part by a party's counsel. No party or party's counsel contributed money that was intended to fund preparing or submitting this brief. No party – other than amicus curiae, and its wholly-owned subsidiary companies – contributed money that was intended to fund preparing or submitting this brief.



alleges that the invention makes use of computers or computation in an unknown or unforeseeable manner, the burden should shift to the inventor to demonstrate patentability under 35 U.S.C. § 101. We urge the Court to incorporate the appropriate standards from *Graham v. John Deere*, 383 U.S. 1 (1966) including, for example the use of secondary considerations, into the objective criteria which will be used to evaluate patentability under § 101.

## THE ARGUMENT

We take no position regarding the merits of either party's case, but simply respond to the legal and policy questions raised by the Court in the order of October 9, 2012 as follows:

**QUESTION 1:** *What test should the court adopt to determine whether a computer-implemented invention is a patent-ineligible abstract idea and when, if ever, does the presence of a computer in a claim lend patent eligibility to an otherwise patent-ineligible idea?*

### I. **MAYO v. PROMETHEUS IS CONTROLLING LAW**

In *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012), the Supreme Court reiterated its *Diehr* statement that a law of nature<sup>2</sup> or an idea that is otherwise abstract does not automatically become

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<sup>2</sup> Supreme Court precedents do not expressly exclude computer implemented "natural laws" from patentable subject matter. Both *Diamond v. Diehr*, 450 U.S. 175 (1981) and *Parker v. Flook*, 437 U.S. 584 (1978) misquote *Gottshalk v. Benson*, 409 U.S. 63 (1972) as saying that a law of nature is unpatentable, when the *Benson* case only refers to "phenomena of nature." A phenomenon of nature is something that exists before a human discovered it. A law of nature is most often a model that was invented by a human to describe the underlying natural phenomena. The model, which is sometimes expressed in mathematical terms, often allows practical technical application of the underlying natural phenomena and can potentially be patentable subject matter. See Brief of *Amica Curiae* Anne E. Barschall, *Pro Se*, In Support of Petitioners On Petition For Writ Of Certiorari To the Court of

patent-eligible by simply limiting claims to a particular technological environment or by adding insignificant well-known, well-understood post-solution activities. *Mayo*, 132 S. Ct. at 1294. However, a claim may be patentable where it “has additional features that provide practical assurance that the process is more than a drafting effort designed to monopolize that law of nature itself.” *Id.* at 1297.

The *Mayo* Court aptly recognizes that the patent must do more than simply state the idea and add the instruction: “apply it.” *Id.* at 1294. In effect, a patentee must demonstrate that the claimed invention does not merely apply a law of nature or abstract idea in a conventional way. Like laws of nature, abstract ideas may be used as the basis for patentable inventions, but claims cannot be so broad as to cover a conventional application of the law of nature or abstract idea itself. Instead, the invention must include some “additional features” such that the idea or law is applied to a useful end. *See id.* at 1297. Thus, *Mayo* instructs that claims which focus on a use of ineligible subject matter must contain an “inventive concept.” *Id.* at 1294. “Simply appending conventional steps, specified at a high level of generality, to . . . abstract ideas cannot make those . . . ideas

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Appeals For The Federal Circuit at 15, No. 08-964, *Bilski v. Doll*, 129 S.Ct. 2735 (2009).

patentable.” *Id.* at 1300. Moreover, the Supreme Court again stressed that the “machine-or-transformation” test may be a “useful clue” regarding patentability, but does not trump the “law of nature” exclusion. *Id.* at 1303.

Analysis of “inventive concept” under the purview of Section 101 of the Patent Act is not unlike the analysis required to determine novelty and obviousness under its Sections 102 and 103. At its heart, the Supreme Court’s approach to the question of inventive concept under a Section 101 analysis is a two-step procedure. First, treat the recitation of a law of nature or abstract idea as a part of the prior art, since it is not, by itself, patentable. *See Mayo*, 132 S.Ct. at 1304. Second, examine each of the additional features of the claim and determine whether or not they are “routine, conventional activity” or whether they collectively add something “significant beyond the sum of their parts” to the claim as a whole. *Id.* at 1298.

The issues of novelty and obviousness are likely to be encountered in such an analysis. However, the Supreme Court specifically rejected the government’s suggestion that these issues could be ignored for the purposes of Section 101 and instructs that they cannot properly be left to patentability determinations under Sections 102 and 103 (“[T]o shift the patent-eligibility

inquiry entirely to these later sections risks creating significantly greater legal uncertainty, while assuming that those sections can do work that they are not equipped to do.”) *See id.* at 1304. These issues must also be analyzed, where appropriate, in regard to Section 101.<sup>3</sup>

## II. USING KNOWN COMPUTER MACHINES FOR COMPUTATION EPITOMIZES CONVENTIONAL, ROUTINE ACTIVITY

The use of computer machinery, controllers and systems to perform computations and execute the steps of logical algorithms is now so pervasive that the courts can and should take judicial notice that they are *prima facie* well-known and well-understood; whether presented as process steps, machine elements or as articles of manufacture. “[I]ncreased accuracy, speed, compactness, flexibility, reliability, and economy... [are] nothing more than the recognized advantages of electronic upgrading of a data processing system.” *Digitronics Corp. v. New York Racing Ass’n, Inc.*, 553 F.2d 740, 747 (2d Cir. 1977) (affirming a District Court ruling that simply

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<sup>3</sup> It is difficult for most American patent law specialists to embrace the notion of an “inventive concept” separate and apart from inventions defined in the claims. It seems clear to us, however, that the Supreme Court has embraced this notion (*see Quanta Computer, Inc. v. LG Electronics, Inc.*, 553 U.S. 617 (2008)) and thus we must do so too.

replacing a mechanical pari-mutuel betting machine with an electronic computer was obvious under 35 U.S.C. § 103).

### **III. THE BURDEN OF PROOF SHOULD REST UPON THE APPLICANT/PATENTEE TO ESTABLISH PATENTABILITY OF COMPUTER IMPLEMENTED INVENTIONS**

In cases where an applicant or patentee alleges that the invention makes use of computers or computation in an unknown or unforeseeable manner, the burden should shift to the inventor to demonstrate patentability under 35 U.S.C. § 101. This Court's predecessor so held in cases which involved pending patent applications:

“In computer-related inventions, the recited means often perform the function of “number crunching” (solving mathematical algorithms and making calculations). In such cases the burden must be placed on applicant to demonstrate that the claims are truly drawn to specific apparatus distinct from apparatus capable of performing identical functions. If this burden has not been discharged, the apparatus claim will be treated as if it were drawn to the method or process which encompasses all of the claimed means” *In re Abele*, 684 F.2d 902, 909 (C.C.P.A. 1982) citing *In re Walter*, 618 F.2d 758,768 (C.C.P.A. 1980).

### **IV. MATHEMATICS IS A TECHNICAL ART**

Mathematical algorithms may appear to be abstractions or descriptions of natural phenomena, but should be considered inventive when applied to

solving practical problems. But substantial inventions of great practical utility can and are being made in the field of mathematics. Taking the opposite position: that any abstraction no matter how practically applied is not patentable; would render entire scientific fields of study unpatentable.<sup>4</sup>

**V. THE COURT SHOULD APPLY THE SAME TESTS AND PRINCIPLES THAT ARE USED TO DETERMINE OBVIOUSNESS TO PATENTABILITY UNDER 35 U.S.C. § 101**

The *Mayo* Court rejected the Government's argument that the judicial exceptions to 35 U.S.C. §101 patentability could be adequately handled as questions of novelty and obviousness, respectively, under 35 U.S.C. § §102 and 103. *Mayo*, 132 S. Ct. at 1303-04. Natural phenomena, whether previously known or unknown, are not necessarily part of the statutory prior art. Nevertheless, the criteria for determining whether a claim element is well-known and well-understood substantially overlap the criteria which are

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<sup>4</sup> The field of topology, for instance, includes abstract concepts such as infinite surfaces which are true abstractions and as such should not be patentable. However, finite sections of these surfaces may be used for technical ends -- e.g., in the surfaces of cams that operate the valves of automobile engines. One would not argue that since the definition of such a cam surface is an abstraction and the rendering of the surface into a steel form is well known technology, that the cam itself is not a patentable apparatus or that the sequence of steps opening and closing the valves in response to movement of the cam is not a patentable method.

used to determine obviousness (particularly if the natural phenomena are included within the ambit of publically known facts). Except when absolutely necessary, we believe that it would be unwise and counterproductive to build a new body of law which diverges from established Section 103 practice and we urge the Court to incorporate the appropriate standards from *Graham v. John Deere*, 383 U.S. 1(1966), including for example the use of secondary considerations, into the objective criteria which will be used to evaluate patentability under Section 101.



**QUESTION 2:** *In assessing patent eligibility under 35 U.S.C. 101 of a computer-implemented invention, should it matter whether the invention is claimed as a method, system or storage medium; and should such claims at times be considered equivalents for Section 101 purposes?*

**VI. THE EQUIVALENCE OF CLAIMS IN DIFFERENT STATUTORY CLASSES, IF ANY, SHOULD BE DETERMINED ON A CASE-BY-CASE BASIS**

An abstract idea, by its very nature, is the antithesis of a process, a machine, or an article of manufacture. The court should be extremely wary of draftsman's tricks which attempt to transform abstract ideas into patentable subject matter simply by tying them to the named classes in Section 101. Yet there are many inventions which are, in fact, patentable as a direct result of the use of an (otherwise abstract) idea to solve a technical problem that is uniquely tied to a particular type or class of product; and in those situations, claims drawn to a particular statutory class or product might be patentable where the same invention would be overly broad and abstract when expressed as a different statutory class.

Moreover, there are sound legal and economic needs which often require a diligent patent draftsman to seek patent protection for the same invention in several different the statutory classes.<sup>5</sup>

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<sup>5</sup> In modern practice these needs often manifest in situations where the law of infringement is unsettled. Such situations include is inventions in which

**VII. THE COURT SHOULD PAY SPECIAL ATTENTION TO THE UNIQUE ISSUES WHICH CAN DETERMINE THE PATENTABILITY OF CLAIMS FOR COMPUTER SOFTWARE ON STORAGE MEDIA**

We expect that other *amici* will make arguments about the unique nature of computer components and systems and advocate that they can (or cannot) confer patentability to abstract ideas. As a pioneer in the invention of optical recording technology and related digital rights management software, Philips takes this opportunity to remind the Court that there are unique aspects of these physical technologies which can also impart patentability to software and digital content when it is written to and stored on our media.

So called “Beauregard” claims, (*In re Beauregard*, 53 F.2d 1583 (Fed. Cir. 1995)) for a computer program written onto a storage medium have often been mentioned as an example of overreaching claim drafting and as an abusive attempt to improperly impart patent coverage to abstract ideas. We do not support the proposition that an otherwise abstract software invention can be transformed into a statutory article of manufacture just by storing a physical embodiment. That situation is directly analogous to

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there is an expectation that the steps or elements of a combination claim may be practiced by joint infringers, and/or in cases of infringement which spans our nation’s borders.

musical compositions, which are not patentable subject matter simply because a performance is fixed on a piano roll, phonograph record or compact disc. *In re Alappat*, 33 F.3d 1526, 1553-54 (Fed. Cir. 1994) (Archer, C.J., dissenting).

In this context, there is a temptation to look upon all storage media as blank paper sheets which add nothing more than basic physicality to abstract data or a creative work.<sup>6</sup> But modern digital storage media, and in particular optical storage media such as CD, DVD and Blue-Ray® disks, are complex devices which have unique components and qualities that can technically interact with stored content to yield synergistic benefits. For example: certain methods for encoding, storing and protecting video and music data are implemented as computer code running on a processor. The methods are usually implemented as program code written on an optical disc. Some commercially important methods of digital rights management methods utilize properties intrinsic to the disk media to verify that the disk, its computer code, and its program content are not counterfeit. One such property is “disc wobble” which characterizes local eccentricity between the center of a spiral track of data pits and the physical axis of a disk. This

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<sup>6</sup> See also the discussion contrasting music stored on perforated piano rolls with sheet music printed on paper in *White-Smith Music Pub. Co. v. Apollo Co.*, 209 U.S. 1 (1908).

wobble can now be intentionally controlled during disk manufacture to encode and store digital "watermark" data which is hidden from regular users and may only be retrieved by special programs within the disk reader hardware. The retrieved data is then algorithmically combined with the regular recorded content and used to ensure legitimacy and validity of the program content or to serve as a lockout which prevents copying of the disc data.

In these types of situations, when the physical disc properties are intimately interacting with the content, the combination of the physical disc with the recorded data is fundamentally different from a novel or musical composition that has simply been transcribed onto a blank page and the combination should be patentable as an article of manufacture.



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**Jack E. Haken**  
**Telephone 1 (914) 333 9650**  
**Briarcliff Manor, N.Y.**  
**November 28 , 2012**



## Service List

David Milton Krinski, Esq.  
Williams and Connolly LLP  
725 12<sup>th</sup> Street, N.W.  
Washington, DC 2005-5901  
202-434-5029

Mark A. Perry, Esq.  
Gibson, Dunn & Crutcher LLP  
1050 Connecticut Ave., N.W.  
Washington, DC 20036-5306  
202-530-9696

John D. Vandenberg, Esq.  
Klarquist Sparkman LLP  
One World Trade Center, 16<sup>th</sup> Floor  
121 S.W. Salmon Street  
Portland, OR 97204-2988  
503-595-5301

Julie P Samuels, Esq.  
Electronic Frontier Foundation  
454 Shotwell Street  
San Francisco, CA 94110  
415-436-9993

Daryl L. Joseffer, Esq.  
King & Spalding  
1700 Pennsylvania Avenue, N.W., Suite 200  
Washington, DC 20006  
202-626-3737

**CERTIFICATE OF COMPLIANCE**

The undersigned counsel certifies that this brief complies with the type-volume limitations of Fed. R.App. P. 32(a)(7)(B)(i). This brief was printed using a 14 point Times New Roman font and contains 2,728 words as calculated by the "Word Count" feature of Microsoft Word 2010, the word processing program used to create it.

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By: Jack E. Haken  
Jack E. Haken  
Attorney for *Amicus Curiae*