No. 13-298

IN THE

# Supreme Court of the United States

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ALICE CORPORATION PTY. LTD.,
*Petitioner,*

v.

CLS BANK INTERNATIONAL AND
CLS SERVICES LTD.,
*Respondents.*

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**On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit**

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## BRIEF OF *AMICUS CURIAE* MARGO LIVESAY, PH.D., IN SUPPORT OF NEITHER PARTY, AND SUGGESTING REVERSAL

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January 28, 2014

WILSON-EPES PRINTING CO., INC. – (202) 789-0096 – WASHINGTON, D. C. 20002

## QUESTION PRESENTED

Whether claims to computer-implemented inventions - including claims to systems and machines, processes, and items of manufacture - are directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101 as interpreted by this Court?

## PARTIES TO THE PROCEEDING

All parties to the proceeding are identified in the caption.

## RULE 29.6 STATEMENT

Margo Livesay, Ph.D., *Amicus Curiae*, is an attorney licensed by the State of Texas in 1985, and the District of Columbia in 2003. Both licenses are active. Dr. Livesay is also a registered United States patent attorney. Dr. Livesay spent many years as full-time university Computer Science faculty, after receiving the first Engineering-School Ph.D. in Computer Science from the University of Texas at Arlington (officially awarded in 1982), and prior to becoming a full-time patent attorney. Since leaving academia in 1997, Dr. Livesay has represented numerous clients in software/hardware-related patent work. Dr. Livesay is not filing this brief on behalf of any client, past, present, or future, and respectfully submits that all arguments and opinions (other than cited opinions) expressed herein are her own, in her own individual capacity as a patent attorney, and as an individual person skilled in the art who, on December 8, 1981 (upon completion of her Ph.D. dissertation), experienced trauma in realizing that various forms of intellectual property protection, other than patent, were insufficient to fully protect her Ph.D. dissertation research work.

Dr. Livesay's law firm, Livesay IP Law, PLLC, has no parent corporations and there is no publicly held company that owns 10% or more of any stock in Livesay IP Law, PLLC.

## RULE 37.3 STATEMENT

Letters stating blanket consent to the filing of *amicus curiae* briefs, stating that the party consents to the filing of *amicus curiae* briefs in support of either or neither party, are noted in the United States Supreme Court docket for this matter, indicating a docket entry date of December 11, 2013, for blanket consent letters from both parties.

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## BACKGROUND OF *AMICUS CURIAE*, MARGO LIVESAY[1]

In December 1981, Dr. Livesay completed and defended her Ph.D. dissertation, Margo List, *The DP Tree—A Data Structure for Multikey Retrieval*, Ph.D. Dissertation, University of Texas at Arlington (1982). The underlying research product included a data structure for clustering and storing data in a novel arrangement on one or more devices, to enable users to search and retrieve the data more efficiently and effectively than with prior arrangements that were known at the time. Dr. Livesay perceived that numerous real-world entities having multiple attribute values (e.g., a person having age, location, income range, family size values, or a catalog item with a color, size, category, etc.) could be modeled as points in k-space (k being the number of such attributes). Using various distance (or similarity) metrics, it can be advantageous to store "close" (or "similar") such points as "clusters," for more efficient retrieval. As stated in Dr. Livesay's dissertation, *Id*., (page 3):

> Many of the clustering techniques used in previous systems relied on calculations of some distance measure or similarity measure between all pairs of points, or records, in the file. If N is the number of records in the file, these calculations require on the order of $N^2$ operations. If the machine involved can

[1] In accordance with Rule 37.6, Amicus submits that Amicus Margo Livesay authored this brief in whole, and funded the preparation and submission of the brief entirely on her own. There were no other persons making any monetary contributions to fund the preparation and submission of this brief, including that no party to this proceeding made or is expected to make, any contributions to fund the preparation and submission of this brief.

> process one million operations per second, and if the file contains one million records, then $N^2$ operations will require at least eleven and one-half days of processing time. If, instead, a clustering method were used that required only N $\log_2$ N operations, the computation time is reduced to twenty seconds. Considering the cost of computer processing time in general, and the cost of having a database inaccessible to the user during file reorganization, it is obvious that efficient clustering algorithms which produce search-efficient clusters are a worthwhile endeavor for research.

Further, the retrieval of these N (i.e., one million) records stored (i.e., arranged on electronic devices) more randomly might require on the order of N operations for a linear search (i.e., on the order of 1 second for retrieval), while the retrieval using the DP Tree structure might require on the order of $\log_2$ N operations (i.e., on the order of 0.00002 seconds). While Dr. Livesay was not the first person to discover techniques with this range of performance, she believed that her work product was an improvement over numerous prior techniques, from systems that were becoming effectively "useless," to improved systems that might be effectively more "useful." As an example, if computation time took so long, that the need or desire for a computation result of computational operations had long passed before the result was obtained, the result was effectively "useless" for the user. For example, if computation time took several days to generate a weather forecast, or to generate a trajectory scheme for war-related weaponry in active combat, then the systems involved would be effectively useless in providing results after the need had long passed. It

was also clear to Dr. Livesay that the magnitudes of these types of computational operations were not amenable to being done "in the heads of humans," nor "with pencil and paper," within a time frame that could be "useful." Further, it was clear to Dr. Livesay that such results were also not "abstract" - but were in fact "concrete" and "tangible," especially as one could typically see, hear, or otherwise experience the results. In today's world of "fast" devices, many users lose interest in a device if its response time exceeds a few seconds (e.g., five to fifteen seconds), proclaiming the device (or application configured to run on the device) as "useless" because it takes too long for the user's needs, or produces results that make little or no sense to the user (i.e., the user is unable to "experience" or "use" the results in a meaningful or timely way, from the user perspective).

In December 1981, Dr. Livesay was advised by personnel in the University of Texas at Arlington Graduate School that many Ph.D. students applied for copyright registrations for their completed dissertations - and thus, she also applied for copyright protection on her completed dissertation. However, she soon learned that such copyright protection was apparently not intended to protect the functionality of her research product - which was the essence of the work, and all her efforts. She also worked with her own university students and colleagues, who were also unhappy with the apparent lack of protection for their novel core ideas, and the resulting techniques involved in development of new and improved computing devices. Thus, in frustration, Dr. Livesay started her law school career at the University of Texas at Austin in 1983, in hopes of finding ways to protect the innovative results of Computer Science research efforts, for herself, and for the computer science community in

general. In an intellectual property course in 1984, Dr. Livesay was ecstatic to read (for the first time) *Diamond* v. *Diehr,* 450 U.S. 175 (1981)—and was immediately proclaiming to classmates and friends that the case held that software-related inventions could be patentable subject matter, if sufficiently tied to a machine. She was immediately countered by naysayers (e.g., non-computer-science students) who proclaimed that software inventions were not patentable, and that Dr. Livesay was incorrect in her interpretation of the opinion.

In spite of her efforts, the United States Patent and Trademark Office (USPTO hereafter) specifically stated that a computer science degree was not considered a worthy technical background for obtaining a USPTO registration number for becoming a patent agent or patent attorney. Further, law firms did not respond favorably to her applications for a position as a patent attorney. Thus, after graduating and passing the July 1985 Texas Bar Exam, Dr. Livesay returned to her career as full-time university Computer Science faculty, until 1997, when she was finally hired by a law firm to do patent work, and personally attended the 1997 oral arguments, at the Court of Appeals for the Federal Circuit, for *State Street Bank & Trust v. Signature Financial Group, Inc*., 149 F.3d 1368 (Fed. Cir. 1998).

## PROPOSED ANSWER TO QUESTION PRESENTED

Amicus Margo Livesay respectfully submits that claims to computer-implemented inventions - including claims to systems and machines, processes, and items of manufacture - are directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101 as interpreted by this Court - and thus, the answer to

the question posed by the Court should be answered in the affirmative, for all statutory classes of subject matter. Further, as discussed by Judge Rader in *CLS Bank Int'l v. Alice Corp*, 717 F.3d 1269, 1334 (Fed. Cir. 2013):

> And for me, the magisterial statute with its sweeping inclusion of "any" process and even "improvements thereon" without any of the written exceptions for "software per se" or other legislative exceptions featured in failed European and Asian statutes settled the question. Indeed, as the law expressed and the Supreme Court recognized, an invention could extend to "anything under the sun that is made by man." (citing *Diamond v. Diehr*, 450 U.S. 175, 182 (1981))

## STATUTORY PROVISION INVOLVED

Section 101 of the Patent Act provides: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101.

## ARGUMENT

### I. Intellectual Property Protection for Computer-Related Inventions

Amicus respectfully submits that intellectual property protection for computer-related inventions is typically discussed in terms of trade secrets, trademarks, copyrights, and/or patents. Of course, with trade secret protection, the public will not learn of the invention that must be kept secret, thus depriving the world of the benefit of learning how to make and use it (and

further develop the innovative aspects in further research). Trademark protection generally is not intended to cover functionality, nor is copyright, as discussed further below.

## II. Copyright (95 years) Does Not Protect the Functional or Efficiency-Driven Parts of Computer Programs (Machines or Processes), Which When Properly Understood Are the Domain of Patent (20 years)

In the copyright matter *Oracle America, Inc. v. Google Inc*., 872 F.Supp.2d 974, 984, 998 (N.D.Cal. 2012), the District Court addressed the differences between copyright protection and patent protection, stating:

> Turning now to the more difficult question, this trial showcases a distinction between copyright protection and patent protection . . . A question then arises whether the copyright holder is more appropriately asserting an exclusive right to a functional system, process, or method of operation that belongs in the realm of patents, not copyrights.
>
> . . .
>
> 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, 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.

## III. Patent Protection Must Extend to Computer-Implemented Inventions

Amicus respectfully submits that claims to computer-implemented inventions - including claims to systems and machines, processes, and items of manufacture - are directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101 as interpreted by this Court, as copyright protection is insufficient to protect such inventions. Further, the Constitution of the United States, Article I, Section 8, clause 8, states:

> The Congress shall have 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

Thus, as copyright does not protect computer-related "discoveries" at the "concept and functionality level," - such "discoveries," if not kept secret and unavailable to the public, are protectable only under the Patent Act.

As further evidence of the applicability of patent law to such "discoveries," Amicus (rather embarrasingly, in 2014) admits that her early career of system design and development substantially consisted of recognizing a problem to be solved, envisioning a solution in her head, and sitting down at a keypunch machine to punch out large numbers of punch cards to be used to run a program embodying a form of a solution, which pretty much executed successfully, on

the first run, every time. Amicus can easily analogize this type of development to a situation where a mechanic simply purchases auto parts (and/ or raw materials such metals, rubber, plastics, and fabric), and builds an automobile in the parking lot of an auto parts store with design plans in his/her head.

Over time, however, software-related system design and development evolved into something that is more akin to an engineer designing and developing things, including airplanes, cars, tools, various machines, etc. Over time, as systems became more complex, system development became a process of designing various functional blocks, at varying levels of complexity, with each block's functionality described in block diagrams (and describing interactions among the blocks that is needed to achieve the overall functionality) - and the terms "system engineers" and "software engineers" became common parlance.[2]

For example, such blocks are easily analogized to arrangements of gears, or cogwheels, that are designed and finely fitted to interact with each other, to engage and/ or disengage, at appropriate times, to achieved desired results (e.g., to propel a vehicle, aid in manufacturing products, etc.)—easily understood as, at least, part of mechanical engineering and/ or physics innovations, which have long been favorably recognized under patent eligible considerations.

With such diagrams, programmers skilled in the art could write code to accomplish the functionality of each block, or find already-written code for such blocks (or sub-components thereof) that is designed to interface/interact with other functional blocks in

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[2] Indeed, Amicus received her Ph.D. degree - specializing in computer science - from an engineering school, in 1982.

particular ways, and save time and resources by using the already-written routines to interface with the other functional blocks. Such development is directly analogous to "building blocks" or "parts" used in other engineering disciplines (e.g., airplane design, automobile design, machine design, etc.). In fact, Amicus respectfully submits that, similar to auto parts stores, software designers today offer various software components for use in building (or repairing, or improving) new and improved systems. As another example, "toolkits" are routinely sought after by software developers so that they can design and build new and innovative systems to be run on electronic devices.

For example, such complex system development is easily analogized to assembly-line technology, in which complex structures (e.g., cars, airplanes, machines, etc.) are built/ assembled. Further, purchasers of cars may either prefer to purchase a new car model to be "the first" to own one, or may prefer to defer the new car purchase until a later version, to let the designers "work out bugs in the new design" with early purchasers, just as software/ hardware customers may prefer to purchase new software systems (e.g., new operating systems) as soon as they are announced, or may defer the purchase to wait for more "debugged" later versions.

With the commonplace use of such terms, and the widespread availability of such software items (e.g., online, as well as in "walk-in" commercial outlets such as office supply stores, discount outlets that offer many types of items other than software, including outlets that offer groceries as well), Amicus is puzzled that some courts seem to have so much difficulty understanding that software-related inventions (e.g.,

computer-implemented inventions) should be treated as patentable subject matter in the same way as other subject matter, for example, as in other engineering disciplines.

## IV. Petitioner's Brief

Petitioner's brief on the merits for this matter submits that computer-implemented inventions rarely fit within the narrow scope of the "abstract ideas" exception as defined by this Court. Amicus agrees that the "abstract ideas" exception should be applied in very rare circumstances, and only when it is extremely clear that the claim(s) under review are directed to subject matter that is no more than such an "abstract idea." Petitioner's brief on the merits further states (page 15-16):

> The deep and multiple splits in the Federal Circuit's en banc ruling illustrate the confusion in the lower courts regarding the patent eligibility of computer-implemented inventions. As shown by the divergent opinions in this case, that confusion largely stems from uncertainty over how to determine whether a claim to a computer-implemented invention runs afoul of the judicial exception for "abstract ideas."

As understood by Amicus, Petitioner's brief on the merits then offers guidance in potentially resolving some of the confusion with regard to determinations of whether claims are directed to the judicial exception for "abstract ideas."

## V. Reviewers of Patentable Subject Matter Have Been Experiencing Frustration and Confusion in Attempts to Distinguish Claims that are Directed to "Abstract Ideas," from Claims that are not Directed to "Abstract Ideas," with Massive Disagreement in their Review

For example, in *Accenture Global Services, GmbH v. Guidewire Software, Inc*., 728 F.3d 1336, 1346, 1347 (Fed. Cir. 2013), Judge Rader (in dissent) expressed frustration with the task of analyzing claims as "abstract ideas," stating:

> "[A]ny claim can be stripped down, simplified, generalized, or paraphrased to remove all of its concrete limitations, until at its core, something that could be characterized as an abstract idea is revealed. A court cannot go hunting for abstractions by ignoring the concrete, palpable, tangible limitations of the invention the patentee actually claims." *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1344 (Fed.Cir.2013).
>
> . . .
>
> In conclusion, I note that prior to granting en banc review in *CLS Bank*, this court commented: "no one understands what makes an idea abstract." *CLS Bank Int'l v. Alice Corp*., 685 F.3d 1341, 1349 (Fed.Cir.2012), *opinion vacated*, 484 Fed.Appx. 559 (Fed.Cir.2012) (internal quotations marks omitted). After *CLS Bank*, nothing has changed. "Our opinions spend page after page revisiting our cases and those of the Supreme Court, and still we continue to disagree vigorously over

> what is or is not patentable subject matter." *MySpace, Inc. v. GraphOn Corp*., 672 F.3d 1250, 1259 (Fed.Cir.2012); *see generally CLS Bank*. Indeed, deciding what makes an idea "abstract" is "reminiscent of the oenologists trying to describe a new wine." *MySpace*, 672 F.3d at 1259.
>
> I take this opportunity to reiterate my view that "the remedy is the same: consult the statute!" *CLS Bank,* 717 F.3d at 1335 (additional reflections of Rader, C.J.). The statute offers broad categories of patent-eligible subject matter. The "ineligible" subject matter in these system claims is a further testament to the perversity of a standard without rules—the result of abandoning the statute. I respectfully dissent.

## VI. Determinations of Whether Claims are Directed to "Abstract Ideas" Should Not Focus on "Prior Art" Considerations, as Those are Specifically Reserved for Anticipation and Obviousness Review

Amicus does not attempt to duplicate the well-reasoned explanations in Petitioner's brief, but instead offers additional suggestions herein for potentially easing some of the burden (and confusion) of such determinations. For example, Amicus respectfully submits further that, if consideration of whether the subject matter is an "abstract idea" hinges on whether the subject matter is "old" or otherwise "well-known," that the § 101 review should not be mixed with considerations that are reserved for § 102 (anticipation), § 103 (obviousness), and/or § 112 (specification) review, which should be conducted as separate considerations. Amicus respectfully requests

that the Court recommend that any such "abstract idea" reviews should only be entertained after the reviewer has received input from parties regarding potential § 102, § 103, and/or § 112 issues, using the correct standards for each respective type of issue, resolving such questions prior to moving to a finding that the subject matter is an "abstract idea" under § 101. Amicus further requests that the Court reconsider, or further clarify, certain portions of its opinion in *Bilski v. Kappos*, 130 S. Ct. 3218 (2010), in an effort to provide more guidance and certainty in future determinations of subject matter eligibility under § 101.

Amicus additionally submits that such a recommendation might aid in resolving potential disputes regarding whether subject matter should be determined as an "abstract idea" due to its nature as a "natural phenomenon" or other type of "law of nature." Clearly, if the claim as a whole is directed to no more than a mathematical equation, then it would seem to be suspect as an "abstract idea." For example, consider a "summation" claim such as:

> A method comprising:
>
> obtain a first integer value;
>
> obtain a second integer value;
>
> determine the sum of the first integer value and the second integer value.

Amicus respectfully submits that there would likely be ample prior art (or skilled experts, perhaps elementary school teachers or students) available to determine that the "summation" claim above would be invalid under (at least) § 102 (anticipation), as a threshold question, without resorting to § 101 analysis (*e.g.*, as a mathematical equation, law of nature, or

"abstract idea"), although this particular example lies within the realm of potentially easily settled disputes over patentability. In *Alexsam, Inc. v. IDT Corp*., 715 F.3d 1336 (Fed. Cir. 2013), decided after the current matter on appeal herein, the United States Court of Appeals for the Federal Circuit held that the claims on appeal were not invalid, based on § 103 (obviousness) analysis (with no mention of any § 101 issues), and a Judge Mayer dissent, *Id.* at 1349, states:

> Whether claims are directed to statutory subject matter is a "threshold" question, *Bilski v. Kappos*, —— U.S. ——, 130 S.Ct. 3218, 3225, 177 L.Ed.2d 792 (2010), which must be addressed before this court can consider subordinate issues related to obviousness and infringement. See *Parker v. Flook*, 437 U.S. 584, 593, 98 S.Ct. 2522, 57 L.Ed.2d 451 (1978) ("*Flook*") (emphasizing that "[t]he obligation to determine what type of discovery is sought to be patented" so as to determine whether it falls within the ambit of section 101 "*must precede* the determination of whether that discovery is, in fact, new or obvious" (emphasis added))

However, Amicus respectfully submits that § 101, in part, states *(emphasis added)*, "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter . . . may obtain a patent therefor, *subject to the conditions and requirements of this title.*" A simple reading of the statutory language, coupled with the "*Flook*" language cited by Judge Mayer *Id*., indicates that "determining what type of discovery is sought to be patented," coupled with "*must precede* the determination of whether that discovery is, in fact, new or obvious" only reinforces the concept that § 101 analyses should not be predicated

on whether claimed subject matter is "in fact, new or obvious," as they are separate determinations, for separate issues. As stated in *Diamond v. Diehr*, 450 U.S. 175, 189-190 (1981):

> It has been urged that novelty is an appropriate consideration under § 101. Presumably, this argument results from the language in § 101 referring to any "new and useful" process, machine, etc. Section 101, however, is a general statement of the type of subject matter that is eligible for patent protection "subject to the conditions and requirements of this title." Specific conditions for patentability follow and § 102 covers in detail the conditions relating to novelty. The question therefore of whether a particular invention is novel is "wholly apart from whether the invention falls into a category of statutory subject matter."

Amicus respectfully notes that *Diamond* v. *Diehr*, 450 U.S. 175 at 193 (1981) additionally states (*emphasis added*):

> Similarly, a mathematical formula does not become patentable subject matter merely by including in the claim for the formula token postsolution activity such as the type claimed in *Flook*. *We were careful to note in Flook that the patent application did not purport to explain how the variables used in the formula were to be selected, nor did the application contain any disclosure relating to chemical processes at work or the means of setting off an alarm or adjusting the alarm unit*. *Ibid*. All the application provided was a "formula for computing an updated alarm limit." *Ibid*.

Amicus respectfully suggests that the text above seems to offer a hint that such considerations may have been more appropriately separately analyzed under a § 112 (specification) review, instead of § 101 review.

## VII. Clearer Guidance from the Court is Needed for Determinations of Whether Claims are Directed to "Abstract Ideas"

In reviewing various court opinions, since *Bilski v. Kappos*, 130 S. Ct. 3218 (2010), regarding findings with regard to whether claims are directed to an "abstract idea," Amicus is rather unfortunately reminded of *Jacobellis v. State of Ohio*, 378 U.S. 184, 197 (1964), a matter dealing with questions of pornography, in which Justice Stewart, in concurrence, discussed how it was possible to read other opinions of the Court (*emphasis added*):

> "in a variety of ways. In saying this, I imply no criticism of the Court, which in those cases was *faced with the task of trying to define what may be indefinable*. . . I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description; and perhaps I could never succeed in intelligibly doing so. *But I know it when I see it*, and the motion picture involved in this case is not that."

Amicus further respectfully submits that Examiners at the U.S. Patent and Trademark Office (USPTO) are provided with Guidelines for Examination of such claims, and is attaching a "101 Method Eligibility Quick Reference Sheet" downloaded from the USPTO during preparation of this amicus brief. As shown in the "101 Method Eligibility Quick Reference Sheet,"

Examiners are provided guidance in determining whether a method claim is directed to an abstract idea. As shown in the attached Appendix, on page 5a, Examiners are provided with:

> 4) Sample Form Paragraphs:
>
> a. Based upon consideration of all of the relevant factors with respect to the claim as a whole, claim(s) [1] held to claim an abstract idea, and is therefore rejected as ineligible subject matter under 35 U.S.C. § 101. The rationale for this finding is explained below: [2]
>
> 1. In bracket 2, identify the decisive factors weighing against patent-eligibility, and explain the manner in which these factors support a conclusion of ineligibility. The explanation needs to be sufficient to establish a prima facie case of ineligibility under 35 U.S.C. § 101.

Amicus respectfully submits that these guidelines do not suggest that Examiners inform patent applicants as to what specific "abstract idea" is alleged, leaving the probability of claim rejections based solely on an individual Examiner's decision (i.e., a test of "I know it when I see it") that a method claim is somehow directed to some kind of an "abstract idea," leaving applicants with the burden of either making shoot-in-the-dark response arguments that the claim is not an "abstract idea," or responding with a request for particularity with regard to the precise "abstract idea" that is alleged - leading to a tremendous waste of applicant and Examiner time and resources. Amicus respectfully submits that such guidance may result in almost as many different opinions on identification of

"abstract ideas" in claims, as there are Examiners at the USPTO.

Further, these guidelines are easily subject to interpretations requiring that method claims be tied to some type of machine or apparatus, or fail the test for eligibility under § 101. However, 35 U.S.C. § 100 (b) states:

> b) The term "process" means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

A plain reading of the statutory definition of "process" clearly indicates that a "method" is a "process" under 35 U.S.C. § 100 (b), with no requirement that such a "method" be tied to a machine. As stated in *Diamond v. Diehr*, 450 U.S. 175, 182-184 (1981):

> It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted, and not for the result or effect itself. It is when the term process is used to represent the means or method of producing a result that it is patentable, and will include all methods or means which are not effected by mechanism or mechanical combinations."
>
> "That a process may be patentable, irrespective of the particular form of the instrumentalities used, cannot be disputed. . . . A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. If new and useful,

> it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art. The machinery pointed out as suitable to perform the process may or may not be new or patentable; whilst the process itself may be altogether new, and produce an entirely new result. The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be of secondary consequence." *Cochrane v. Deener*, 94 U.S. 780, 787-788, 24 L.Ed. 139 (1877)."

## VIII. Prior "Clue-Providing" Tests Need to be Re-considered to Aid in Resolutions of Determinations of Whether Claims are Directed to Abstract Ideas, At a Minimum

As an example, Amicus respectfully requests that the Court re-consider and re-evaluate its past positions with regard to *State Street Bank & Trust v. Signature Financial Group, Inc*., 149 F.3d 1368 (Fed. Cir. 1998) and *AT&T Corp. v. Excel Communications, Inc*., 172 F.3d 1352 (Fed. Cir. 1999) - and *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994). For example, in *Bilski v. Kappos*, 130 S. Ct. 3218, 3231 (2010), the Court stated:

> And nothing in today's opinion should be read as endorsing interpretations of § 101 that the Court of Appeals for the Federal Circuit has used in the past. See, e.g., *State Street*, 149 F.3d, at 1373; *AT & T Corp*., 172 F.3d, at 1357. . . . In disapproving an exclusive machine-or-transformation test, we by no means foreclose the Federal Circuit's development of other limiting criteria that

> further the purposes of the Patent Act and are not inconsistent with its text.

In *Bilski v. Kappos*, 130 S. Ct. 3218, 3232 (2010), the Court stated (in a concurrence footnote 1):

> "Even if the machine-or-transformation test may not define the scope of a patentable process, it would be a grave mistake to assume that anything with a "'useful, concrete and tangible result,'" *State Street Bank & Trust v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373 (C.A.Fed.1998), may be patented."

Amicus respectfully submits that a literal reading of the text "it would be a grave mistake to assume that anything with a " 'useful, concrete and tangible result,' . . . may be patented" strongly implies that *nothing* "with a 'useful, concrete and tangible result,'" may be patented.

Further, *Id.* at 3259, stated:

> The machine-or-transformation test is thus an important example of how a court can determine patentability under § 101, but the Federal Circuit erred in this case by treating it as the exclusive test. Fourth, although the machine-or-transformation test is not the only test for patentability, this by no means indicates that anything which produces a "'useful, concrete, and tangible result,'" *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373 (C.A.Fed.1998), is patentable.

Additionally, Amicus respectfully submits that a literal reading of the text "this by no means indicates

that anything which produces a " 'useful, concrete, and tangible result,' . . . , is patentable" similarly implies that *nothing* "with a 'useful, concrete and tangible result,'" is patentable. Amicus respectfully submits that such literal interpretations would render many of today's highly respected inventions unpatentable, as producing "useful, concrete, and tangible results." Amicus urges the Court's re-consideration that a determination that a claim is directed to subject matter that somehow involves a "useful, concrete, and tangible result," *must* (at least) be included in the "important clues" to be considered in patent eligibility considerations under § 101 (or, preferably, the original test may be restored, with approval, in its original form). Amicus further submits that the original test in *State Street Bank, id.*, seemed to work well (and eliminated substantial confusion), until the pronouncements in *Bilski v. Kappos*, 130 S. Ct. 3218, 3232 (2010), which were widely interpreted as meaning that the "useful, concrete, and tangible result" test was no longer valid, which Amicus believes has contributed to much of the uncertainty leading up to the present matter's apparent confusion and controversy.

Amicus respectfully requests that the Court reconsider its stance with regard to the "useful, concrete, and tangible result" test that was developed by the Court of Appeals for the Federal Circuit, to aid in determinations of patentability under § 101 - most especially if a reviewer is grappling with the question of whether a claim is directed to an "abstract idea." Judge Rich has been credited with playing a significant role in development of the test, and Amicus respectfully submits that Judge Rich had a rich history (pun not intended) in the development of U.S. patent law, including co-authoring the 1952 Patent

Act (i.e., begging the question, "Who better to understand the law, and how to interpret it, than the person who actually wrote it?"). While Judge Rich is no longer alive to provide his guidance on the questions in play in the present matter, he already left a significant legacy of helpful "clues," which included (at the very least) the opinion in *State Street Bank & Trust v. Signature Financial Group, Inc*., 149 F.3d 1368 (Fed. Cir. 1998). Without reproducing it herein, Amicus urges the Court to review Judge Rader's discussion of the drafting of the 1952 Patent Act, in *CLS Bank Int'l v. Alice Corp*, 717 F.3d 1269, 1294-1297 (Fed. Cir. 2013).

Amicus further respectfully submits that Judge Rader underscores the difficulty in determining what is abstract, when this Court has seemingly limited (as discussed above) considerations of whether claims might recite inventions that produce a "useful, concrete, and tangible result." As Judge Rader discusses in *CLS Bank Int'l v. Alice Corp*, 717 F.3d 1269, 1299-1300 (Fed. Cir. 2013):

> An abstract idea is one that has no reference to material objects or specific examples— *i.e*., it is not concrete. See Merriam–Webster's Collegiate Dictionary 5 (11th ed.2003) (defining abstract as "disassociated from any specific instance . . . expressing a quality apart from an object <the word *poem* is concrete, *poetry* is [abstract]>"). A claim may be premised on an abstract idea—the question for patent eligibility is whether the claim contains limitations that meaningfully tie that idea to a concrete reality or actual application of that idea.

Judge Rader further states, *Id*. at 1302:

> At bottom, where the claim is tied to a computer in such a way that the computer plays a meaningful role in the performance of the claimed invention, and the claim does not pre-empt virtually all uses of an underlying abstract idea, the claim is patent eligible.

Judge Rader further states, *Id*. at 1298, "A court cannot go hunting for abstractions by ignoring the concrete, palpable, tangible limitations of the invention the patentee actually claims."

Amicus respectfully submits that virtually any analysis with a goal of determining whether "something" is not "abstract" very naturally leads to a discussion of whether that "something" is "concrete," and potentially "tangible" as well. In short, and as discussed above, Amicus requests the Court to relax its previous statements with regard to "useful, concrete, and tangible results," so that other courts do not fear running afoul of the Court's precedents if they revert to use of the terms "concrete," and/or "tangible" - or even if, in certain situations, revert to the use of the "useful, concrete, and tangible results" test to resolve confusion over "abstract idea" questions. Amicus thus respectfully requests the Court to re-instate, and approve the "useful, concrete, and tangible result" test, as discussed above.

## CONCLUSION

In conclusion, Amicus respectfully requests that the Court find that the "Question Presented" should be answered in the affirmative, for all statutory classes of subject matter, and that the Court will re-consider and approve various tests that may provide important "clues" for subject matter eligibility, at least in accordance with suggestions provided herein. Amicus further respectfully requests caution in making limiting statements regarding "business methods" or "methods of doing business," as such terminology is vague at best, and may easily be interpreted as covering substantially anything that is performed by today's devices. Finally, Amicus respectfully requests, at least, reversal in the present matter.

Respectfully submitted,

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January 28, 2014

# APPENDIX

# APPENDIX

## 101 Method Eligibility Quick Reference Sheet

The factors below should be considered when analyzing the claim **as a whole** to evaluate whether a method claim is directed to an abstract idea. However, not every factor will be relevant to every claim and, as such, need not be considered in every analysis. When it is determined that the claim is patent-eligible, the analysis may be concluded. In those instances where patent-eligibility cannot easily be identified, every relevant factor should be carefully weighed before making a conclusion. Additionally, no factor is conclusive by itself, and the weight accorded each factor will vary based upon the facts of the application. These factors are not intended to be exclusive or exhaustive as there may be more pertinent factors depending on the particular technology of the claim. For assistance in applying these factors, please consult the accompanying "Interim Guidance" memo and TC management.

**Factors Weighing Toward Eligibility:**

- Recitation of a machine or transformation (either express or inherent).
  - Machine or transformation is particular.
  - Machine or transformation meaningfully limits the execution of the steps.
  - Machine implements the claimed steps.
  - The article being transformed is particular.
  - The article undergoes a change in state or thing (e.g., objectively different function or use).
  - The article being transformed is an object or substance.

- The claim is directed toward applying a law of nature.
  - Law of nature is practically applied.
  - The application of the law of nature meaningfully limits the execution of the steps.
- The claim is more than a mere statement of a concept.
  - The claim describes a particular solution to a problem to be solved.
  - The claim implements a concept in some tangible way.
  - The performance of the steps is observable and verifiable.

**Factors Weighing Against Eligibility:**

- **No recitation of a machine or transformation (either** express **or inherent).**
- Insufficient recitation of a machine or transformation.
  - Involvement of machine, or transformation, with the steps is merely nominally, insignificantly, or tangentially related to the performance of the steps, e.g., data gathering, or merely recites a field in which the method is intended to be applied.
  - Machine is generically recited such that it covers any machine capable of performing the claimed step(s).
  - Machine is merely an object on which the method operates.

- Transformation involves only a change in position or location of article.
- "Article" is merely a general concept (see notes below).

- The claim is not directed to an application of a law of nature.
  - The claim would monopolize a natural force or patent a scientific fact; e.g., by claiming every mode of producing an effect of that law of nature.
  - Law of nature is applied in a merely subjective determination.
  - Law of nature is merely nominally, insignificantly, or tangentially related to the performance of the steps.
- The claim is a mere statement of a general concept (see notes below for examples).
  - Use of the concept, as expressed in the method, would effectively grant a monopoly over the concept.
  - Both known and unknown uses of the concept are covered, and can be performed through any existing or future-devised machinery, or even without any apparatus.
  - The claim only states a problem to be solved.
  - The general concept is disembodied.
  - The mechanism(s) by which the steps are implemented is subjective or imperceptible.

**NOTES:**

**1) Examples of general concepts include, but are not limited, to:**

- Basic economic practices or theories (e.g., hedging, insurance, financial transactions, marketing);
- Basic legal theories (e.g., contracts, dispute resolution, rules of law);
- Mathematical concepts (e.g., algorithms, spatial relationships, geometry);
- Mental activity (e.g., forming a judgment, observation, evaluation, or opinion);
- Interpersonal interactions or relationships (e.g., conversing, dating);
- Teaching concepts (e.g., memorization, repetition);
- Human behavior (e.g., exercising, wearing clothing, following rules or instructions);
- Instructing "how business should be conducted."

**2) For a detailed explanation of the terms machine, transformation, article, particular, extrasolution activity, and field-of-use, please refer to the Interim Patent Subject Matter Eligibility Examination Instructions of August 24, 2009.**

**3)** When making a subject matter eligibility determination, the relevant factors should be weighed with respect to the claim **as a whole** to evaluate whether the claim is patent-eligible or whether the abstract idea exception renders the claim ineligible. When it is determined that the claim is patent-eligible, the analysis may be concluded. In those instances where patent-eligibility cannot be easily identified, every relevant factor should be carefully weighed before

making a conclusion. Not every factor will be relevant to every claim. While no factor is conclusive by itself, the weight accorded each factor will vary based upon the facts of the application. These factors are not intended to be exclusive or exhaustive as there may be more pertinent factors depending on the particular technology of the claim.

**4) Sample Form Paragraphs:**

a) Based upon consideration of all of the relevant factors with respect to the claim as a whole, claim(s) [1] held to claim an abstract idea, and is therefore rejected as ineligible subject matter under 35 U.S.C. § 101. The rationale for this finding is explained below: [2]

> 1. In bracket 2, identify the decisive factors weighing against patent-eligibility, and explain the manner in which these factors support a conclusion of ineligibility. The explanation needs to be sufficient to establish a *prima facie* case of ineligibility under 35 U.S.C. § 101.

b) Dependent claim(s) [1] when analyzed as a whole are held to be ineligible subject matter and are rejected under 35 U.S.C. § 101 because the additional recited limitation(s) fail(s) to establish that the claim is not directed to an abstract idea, as detailed below: [2]

> 1. In bracket 2, provide an explanation as to why the claim is directed to an abstract idea; for instance, that the additional limitations are no more than a field of use or merely involve insignificant extrasolution activity; e.g., data gathering. The explanation needs to be sufficient to establish a *prima facie* case of ineligibility under 35 U.S.C. § 101.