ALICE: THE STATUS QUO OR TOTAL CHAOS?

Matthew Moldovanyi

INTRODUCTION

On June 19, 2014 the Supreme Court handed down a highly important opinion discussing what is considered patentable subject matter in the United States. The case, *Alice Corporation v. CLS Bank International*,[1] involved a group of patents for computer software that mitigated settlement risk in financial transactions. The Court held that these patents were not drawn to patent eligible subject matter under 35 U.S.C. § 101 (2012) because the claims were directed toward abstract ideas, which are unpatentable.

This ruling has drawn decidedly mixed reactions from commentators in the legal field.[2] Moreover, this case leaves United States Patent and Trademark Office ("USPTO"), courts, inventors and the industry grappling with the question as to what is patentable. Without a clear line, these parties are left to guess at what inventions fit within the ambiguous bounds of patentability.

This Note explores the impact of the *Alice* decision and what standards, if any, the Court created in *Alice*. Part I discusses the history of 35 U.S.C. § 101 which defines patentable subject matter, § 101's application, and judge-made exceptions to patentable subject matter. Part II discusses the history and rise of software patents in the United States. Part III discusses the reasoning of the Court in *Alice*. Finally, Part IV discusses the impact of *Alice*, the cases that have applied *Alice*, and whether *Alice* will facilitate or hinder future determinations of what is eligible subject matter. Finally, the Note suggests options other than patenting and discusses how foreign countries handle patent applications for software and whether that could provide guidance to U.S. courts.

---

1. 134 S. Ct. 2347 (2014).
2. *Compare* Interview by Gene Quinn with Paul Michel, Retired Chief Judge of the United States Court of Appeals for the Federal (Aug. 6, 2014) <u>available at</u> http://www.ipwatchdog.com/2014/08/06/judgemichelsaysalicedecisionwillcreateto talchaos/id=50696/ ("[The <u>Alice</u> decision] will create total chaos.") *with* Justin Nelson, *Symposium: For Patent Litigants, Court Affirms Status Quo*, SCOTUSBLOG (Jun. 20, 2014, 1:36 P.M.), http://www.scotusblog.com/2014/06/symposiumforpatentlitigantscourtaffirmsstatu squo/ ("[The <u>Alice</u> decision] broke no new ground . . . and was consistent with the Court's prior decisions.").

I. ELIGIBLE SUBJECT MATTER & UNDERSTANDING PATENT LAW

Before discussing the impact that *Alice* will have on the definition of eligible subject matter, it is important to have a general understanding of the contours of patent law. The United States' patent system incentivizes people to invent "by securing for limited times to authors and <u>inventors</u> the exclusive right to their respective writings and <u>discoveries</u>."[3] Patents in essence create a monopoly by conferring "the right to exclude others from making, using, or selling the claimed invention."[4] Because of this monopoly, patent law must also not be so broad as to stifle scientific and technological progress. For that reason, Congress has limited what is patent eligible, determining that a patent must consist of eligible subject matter[5] and be novel,[6] nonobvious,[7] and fully and particularly described.[8]

Congress is explicitly given the power to grant patents by Article I of the Constitution.[9] In order to give guidance to the USPTO, courts, and inventors seeking patents, Congress passed Title 35. Section 101 of that title states that "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." Section 101 was passed in 1952, as a revision of the prior statute, 35 U.S.C. § 31 (1946), which was split into the current § 101 and § 102.[10] The language defining eligible subject matter in § 101, however, has existed since the founding of the United States.[11] The *Alice* decision and the cases leading up to it involve the interpretation of the word "process" in § 101.

---

3. U.S. Const. art. I, § 8 (emphasis added).
4. 1-OV Chisum on Patents 1.
5. 35 U.S.C. § 101 (2012).
6. 35 U.S.C. § 102 (2012).
7. "A patent for a claimed invention may not be obtained . . . if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains." 35 U.S.C. § 103 (2012).
8. 35 U.S.C. § 112 (2012).
9. "The 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." U.S. Const. art. I, § 8
10. 35 U.S.C. § 102 defines statutory novelty and states other conditions required for patentability. It has been occasionally argued that because § 101 contains the words "new and useful," novelty is also a requirement under § 101. However, this argument has been soundly rejected. *See* Diamond v. Diehr, 450 U.S. 175, 189 (1981). ("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.")
11. Patent Act of 1793, Act of Feb. 21, 1793, § 1, 1 Stat. 319 ("[W]hen any person or persons . . . shall allege that he or they have invented any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement on any art, machine, manufacture or composition of matter, not known or used before the application, and shall present a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the same, and

The Court noted that because of the broad statutory language in § 101, Congress intended to include "anything under the sun that is made by man."[12] However, this does not mean that anything can constitute patentable subject matter. The Supreme Court has recognized three judicially-created exceptions to patentable subject matter: ""Laws of nature, natural phenomena, and abstract ideas are not patentable"[13] because "they are the basic tools of scientific and technological work . . . and monopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it."[14] These exceptions have never been added to the Patent Act and continue to exist since their formulation as judge-made exceptions.[15]

However, the Court has cautioned that "too broad an interpretation of this exclusionary principle could eviscerate patent law."[16] This is because the terms "laws of nature" and "abstract idea" are "vague and malleable."[17] On another level, every patent can be said to cover a "law of nature" or an "abstract idea" because the claims of a patent, though bound by the language of the claim, must be infinite in scope,[18] and characterizing the defining principle of a patent as a "law of nature" or "abstract idea" is always possible.[19]

In the context of software development and computer-implemented business method patents, two subcategories of these exceptions are particularly important - laws of nature and abstract ideas/mental processes. These limitations place restrictions on the types of software and business methods that are eligible for patent protection.

---

praying that a patent may be granted therefor, it shall and may be lawful for the said Secretary of State, to cause letters patent to be made out")..")

12. *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (quoting S. Rep. No. 1979, 82d Cong., 2d Sess., 5 (1952); H. R. Rep. No. 1923, 82d Cong., 2d Sess., 6 (1952)).

13. *Mayo Collaborative Servs. v. Prometheus Labs, Inc.*, 134 S. Ct. 1289, 1293 (2012) (quoting Diamond v. Diehr, 450 U.S. 175, 185 (1981)).

14. 134 S. Ct. at 1293. (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)).

15. The formulation of these exceptions began in 1853 in *Le Roy v. Tatham*, 14 How. 156, 175 (1853). *See* 450 U.S. at 185 (List of cases tracing the development of the three exceptions from 1853 to 1981).

16. 134 S. Ct. at 1293.

17. *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 135 (1948).

18. *See* Jeffrey A. Lefstin, *The Formal Structure of Patent Law and the Limits of Enablement*, 23 Berkley Tech. L.J. 1141, 1168 (2008); Cont'l Paper Bag Co. v. E. Paper Bag Co., 210 U.S. 405, 418-19 (1908) ("The principle of the invention is a unit, and invariably the modes of its embodiment in a concrete invention may be numerous and in appearance very different from each other.") (quoting Robinson on Patents § 485); Pfaff v. Wells Elecs., Inc., 525 U.S. 55, 60 (1998) ("The primary meaning of the word 'invention' in the Patent Act unquestionably refers to the inventor's conception rather than to a physical embodiment of that idea.").

19. *See* 134 S. Ct. at 1293 ("For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.").

A. Laws of Nature

Laws of nature are not considered patentable subject matter because "manifestations of laws of nature [are] free to all men and reserved exclusively to none."[20] Even if someone discovers a formerly unknown phenomenon of nature she is unable to obtain a patent on it unless she applies "the law of nature to a new useful and end."[21] This is because laws of nature are not new inventions, processes, or products; they are a preexisting truth. One of the earliest cases to succinctly state this principle was *O'Reilly v. Morse*[22] which stated that "[t]he mere discovery of a new element, or law, or principle of nature, without any valuable application of it to the arts, is not the subject of a patent."[23]

B. Abstract Ideas/Mental Processes

Abstract ideas are the broadest, most general unpatentable subject matter; however, they are also the hardest to define. The most basic statement of this idea, which has been around for over a century, is that "an idea [in and] of itself is not patentable."[24] This exception has an underlying public policy because "[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."[25] Yet, this basic principle is not very helpful because at a certain level every patent covers of an idea. The Court has provided some guidance by stating that "while a scientific truth, or the mathematical expression of it, is not a patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be."[26] The question then becomes at what point does an idea cross the threshold to become a patentable invention. It at least takes more than simply stating a law of nature and adding the words "apply it."[27]

1. The Supreme Court Patent-Eligibility Trilogy

The Supreme Court did provide some guidance regarding this question in the case *Gottschalk v. Benson*.[28] The patent claimed a method of

---

20.   333 U.S. at 130.
21.   *Id*. *See also De Forest Radio Co. v. General Electric Co.*, 283 U.S. 664, 684-85 (1931) ("It is method and device which may be patented and not the scientific explanation of their operation."); *Camerson Septic Tank Co. v. Saratoga Springs*, 159 F. 453, 463 (2d Cir. 1908) ("The process is one which puts a force of nature into a certain specified condition and then uses it in that condition for a practical purpose.")
22.   56 U.S. 62 (1853).
23.   56 U.S. at 134 (Grier, J., dissenting).
24.   *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. 498, 507 (1874).
25.   *Le Roy v. Tatham*, 55 U.S. 156, 175 (U.S. 1853).
26.   *Mackay Radio & Tel. Co. v. Radio Corp. of America*, 306 U.S. 86, 94 (1939).
27.   *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 134 S. Ct. 1289, 1294 (2012).
28.   409 U.S. 63 (1972).

programming a general-purpose digital computer to convert binary-coded decimal numerals into pure binary numerals. The claims, however, were not limited to any particular art or technology and in fact could be performed mentally through use of a table.[29] The Court noted that the "[independent] claim is so abstract and sweeping as to cover both known and unknown uses of the . . . conversion."[30] The claims lacked any limitation tying the patent to a particular machine, causing the Court, in considering the patentability of a process claim, to look to whether there was transformation and reduction of an article "to a different state or thing."[31] The Court held that the claimed invention was unpatentable because "the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself."[32]

The Court considered a patent application claiming a mathematical formula again in *Parker v. Flook*.[33] The patent there claimed a 3-step method of updating alarm limits.[34] The only difference between conventional methods of updating and the patent's method of updating was the algorithm. The Court noted that although the claims "cover[ed] a broad range of potential uses of this method[,] [t]hey do not, however, cover every conceivable application of the formula."[35] This differentiates the claims from those in <u>Benson</u> which covered all uses of the algorithm. However, "[t]he 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."[36] The Court held that the claimed invention was unpatentable, not because it contained a mathematical algorithm as one component, but "because once that

---

29. *Id*. at 66-67 (table showing the conversion from decimal numbers 0 to 10 to corresponding Pure Binary numbers and an example of the conversion).

30. *Id*. at 68 (noting that the end use could "vary from the operation of a train to verifications of drivers' licenses to researching the law books for precedents" and that it could be "performed through any existing machinery or future devised machinery or without any apparatus.")

31. *Id*. at 70. The United States Court of Appeals for the Federal Circuit adopted this so called machine-or-transformation test as the sole test for determining patentability. *See In re Bilski*, 545 F.3d 943, 959 (Fed. Cir. 2008). The Supreme Court however warned that while this test "is a useful and important clue . . . but [it] is not the sole test for deciding whether an invention is a patent-eligible 'process.'" *Bilski v. Kappos*, 561 U.S. 593, 604 (2010).

32. *Id*. at 72. The Court defined an algorithm as a "procedure for solving a given type of mathematical problem." 409 U.S. at 65.

33. 437 U.S. 584 (1978)).

34. The steps were: 1) measuring the present value of the process variable, 2) using an algorithm to calculate an updated alarm-limit value, and 3) adjusting the alarm limit to the updated value. 437 U.S. at 585.

35. *Id*. at 586 (Finding that the claims covered any use of Flook's formula to update "the value of the alarm limit on any process variable involved in a process comprising the catalytic chemical conversion of hydrocarbons.") 437 U.S. at 586.

36. *Id*. at 590. *See also In re Application of Richman*, 563 F.2d 1026, 1030 (C.C.P.A. 1977) ("[I]f a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.").

algorithm is assumed to be within the prior art, the application, considered as a whole, contains no patentable invention."[37] This is because "[e]ven though a phenomenon of nature or mathematical formula may be well known, an inventive application of the principle may be patented . . . [but], the discovery of such a phenomenon cannot support a patent unless there is some other inventive concept in its application."[38]

The next case in this line, *Diamond v. Diehr*,[39] provided further guideposts regarding whether abstract ideas are patentable. The patent claimed a process for molding raw, uncured synthetic rubber into cured precision products.[40] The Court determined that because the patent involved the process of transforming an article, specifically raw, uncured synthetic rubber, it was a type of process that was historically patentable. The patent, like those in *Gottschalk* and *Flook*, did not include claims directed to particular machines. However, unlike those two cases, the patentee did not seek to patent a mathematical formula; instead he sought to protect a process of curing synthetic rubber.[41] The Court emphasized that patent claims must be considered as a whole.[42] Concluding that because there was no "attempt to patent a mathematical formula, but rather . . . an industrial process for molding of rubber products," the patent fell within eligible subject matter.[43]

2. *Bilski* Era

Three decades passed before the Court decided the next case regarding the eligibility of software for patent protection. In *Bilski v. Kappos*, decided in 2010,[44] the patent claimed a procedure for instructing buyers and sellers on how to protect against the risk of price fluctuations in a discrete section of the economy.[45] Claim 1 described "a series of steps instructing how to hedge risk" while claim 4 put the concepts of claim 1 into a mathematical formula.

---

37. *Id*. at 594.
38. *Id*. at 594.
39. 450 U.S. 175 (1981).
40. The process involved measuring the actual temperature inside the mold and automatically feeding these measurements into a computer which calculated the cure time using the Arrhenius equation. The process determined the time the mold needed to cure and when the press surrounding the mold could then be opened.
41. *Id*. at 187 ("[T]hey seek only to foreclose from others the use of that equation in conjunction with all of the other steps in their claimed process.").
42. *Id*. at 188 ("It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis. This is particularly true in a process claim because a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made.").
43. *Id*. at 192-93.
44. 561 U.S. 593 (2010).
45. *Id*. at 598-99 ("[It] explains how buyers and sellers of commodities in the energy market can protect, or hedge, against the risk of price changes.").

The *In re Bilski*[46] case resulted in a five-way split of the ten member appellate court.[47] The majority determined that a number of previous § 101 tests used by the Federal Circuit were inadequate or unclear in application,[48] and that the "machine-or-transformation" test should be used to determine § 101 eligible subject matter patentability. The court noted that "adding a data-gathering step to an algorithm is insufficient to convert that algorithm into a patent-eligible process."[49] The majority decision found that "the language of claim 1 does not limit any process step to any specific machine or apparatus" and, therefore, the question of transformation must be determined.[50] It concluded that the patent failed the "machine-or-transformation" test because "claim 1 does not involve the transformation of any physical object or substance, or an electronic signal representative of any physical object or substance."[51] Rather, "the claimed process here as a whole is directed to the mental and mathematical process of identifying transactions that would hedge risk."[52] The concurring opinion did not differ from the majority but was written only in response to the three dissenting opinions.

Circuit Judge Newman's dissent found that the majority's redefinition of "process" created uncertainty in the patent system and misinterpreted the decisions of the Supreme Court and the Federal Circuit. Judge Newman disagreed that the patent was outside the reach of § 101.[53] In his dissent, Circuit Judge Mayer argued that the "machine-or-transformation" test was unhelpful[54] and that giving patent protection to business methods lacks constitutional and statutory support.[55] In the third dissenting opinion, Circuit Judge Rader found the majority's conclusion disrupted settled

---

46. 545 F.3d 943 (Fed. Cir. 2008).
47. The majority opinion filed by Chief Judge Michel joined by Circuit Judges Lourie, Schall, Bryson, Gajarsa, Linn, Dyk, Prost, and Moore; concurring opinion filed by Circuit Judge Dyk and joined Circuit Judge Linn; dissenting opinion filed by Circuit Judge Newman; dissenting opinion filed by Circuit Judge Mayer; and dissenting opinion filed by Circuit Judge Rader.
48. 545 F.3d at 958-61 (These include the Freeman-Walter-Abele test, the "useful, concrete, and tangible result" inquiry, the "technological arts test," and the "physical steps" test).
49. *Id*. at 963. ("A requirement simply that data inputs be gathered--without specifying how--is a meaningless limit on a claim to an algorithm because every algorithm inherently requires the gathering of data inputs.").
50. *Id*. at 962.
51. *Id*. at 964.
52. *Id*. at 965.
53. *Id*. at 976. "These new uncertainties not only diminish the incentives available to new enterprise, but disrupt the settled expectations of those who relied on the law as it existed." 545 F.3d at 977; "[T]he court's redefinition is contrary to statute and to explicit rulings of the Supreme Court and this court." 545 F.3d at 977.
54. "The Majority's proposed 'machine-or-transformation test' for patentability will do little to stem the growth of patents on non-technological methods and ideas." 545 F.3d at 1008.
55. 545 F.3d at 999 ("Because there is nothing in the language of the 1952 Act, or its legislative history, to indicate that Congress intended to modify the rule against patenting business methods, we must presume that no change in the rule was intended.").

principles of law because it was based too heavily on dicta taken out of context from Supreme Court opinions from another era.[56]

The Supreme Court responded to this fractured decision with a surprisingly short unanimous decision seeking to maintain a flexible patent jurisprudence.[57] It achieved this goal by rejecting the "machine-or-transformation" test as the exclusive or exhaustive test for eligible subject matter, concluding that it is a useful and important clue.[58] It did this for a number of reasons, including statutory interpretation,[59] Supreme Court patent jurisprudence,[60] and, most importantly, the need to adapt patent law to ever changing and unforeseen technology.[61] The Court, however, was quick to take a hands-off approach to clarifying what is eligible subject matter and it left little, if any, guidance to federal courts, inventors, or examiners.[62]

The Court did, however, reject the argument that business methods were *per se* not a "process" under § 101.[63] This was because of the text of § 100(b),[64] the existence of federal law in 35 U.S.C. § 273,[65] and the canons of statutory interpretation.[66]

---

56. *Id*. at 1011 ("[T]his court . . . links patent eligibility to the age of iron and steel at a time of subatomic particles and terabytes.").

57. The Majority opinion was a mere 20 pages.

58. 561 U.S. at 604.

59. *Id*. at 603. Section 100(b) states that "'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material" and there is no common meaning of process, art, or method that would "require these terms to be tied to a machine or to transform an article." 35 U.S.C. § 100(b) (2012).

60. *Id*. at 604. *See* 409 U.S. at 70 ("[t]ransformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process."); 437 U.S. at 588 ("a valid process patent may issue even if it does not meet [the machine-or-transformation test].").

61. *Id*. at 605. "[T]he machine-or-transformation test would create uncertainty as to the patentability of software, advanced diagnostic medicine techniques, and inventions based on linear programming, data compression, and the manipulation of digital signals."

62. *Id*. at 606 "In the course of applying the machine-or-transformation test to emerging technologies, courts may pose questions of such intricacy and refinement that they risk obscuring the larger object of securing patents for valuable inventions without transgressing the public domain." *See also* 561 U.S. at 606. ("[T]he Court today is not commenting on the patentability of any particular invention, let alone holding that any of the [possible] technologies from the Information Age should or should not receive patent protection."; "[P]atent law faces a great challenge in striking the balance between protecting inventors and not granting monopolies over procedures that others would discover by independent, creative application of general principles. Nothing in this opinion should be read to take a position on where that balance ought to be struck.")

63. *Id*. at 606-10.

64. "The Court is unaware of any argument that the 'ordinary, contemporary, common meaning,' of 'method' excludes business methods. Nor is it clear how far a prohibition on business method patents would reach, and whether it would exclude technologies for conducting a business more efficiently." 561 U.S. at 607 (quoting *Diamond v. Diehr*, 450 U.S. 175, 182 (1981)).

Ultimately, the Court held that the application was an attempt to patent abstract ideas because it sought to patent the concept of hedging risk and its application to energy markets. Some of its claims were mere explanations of the basic concept of hedging or protecting against risk which were then reduced to a mathematical formula. Ultimately, the Court held that "[a]llowing petitioners to patent risk hedging would preempt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea."[67] The mere fact that the claims were limited to the one field, like *Flook*, was not enough to make the idea patentable.

II. HISTORY OF SOFTWARE PATENTABILITY

The USPTO has a history of being reluctant to grant patents on inventions relating to computer software.

A. The 1960's-1970's

During the 1960's, the USPTO avoided giving patents to inventions that utilized a calculation made by a computer, generally holding that the U.S. patent system explicitly excluded mathematical laws (and therefore computer programs). In fact, in 1968, the USPTO released guidelines for computer-related patents that formalized this exclusion.[68] Under these guidelines an invention related to a computer program could only be patented if it was combined with other nonobvious elements to produce some sort of physical result.[69] These guidelines were routinely challenged by applicants. The Court of Customs and Patent Appeals ("CCPA") rejected parts of these guidelines. Its attitude was that a new program turns a computer into a new machine and if the claim included both the computer and software, it should be considered eligible subject matter.[70]

---

65. *See* § 273(b)(1) (which allows an alleged infringer of "a method in [a] patent" to assert the defense of prior use); § 273(a)(3) (which states that for purposes of that defense, method is defined as "a method of doing or conducting business.").

66. There exists a canon of statutory interpretation that states that interpretation of any statutory provision in a manner that would render another provision superfluous should be avoided. *See* Corley v. United States, 556 U.S. 303, 304 (2009) ("a statute should be construed to give effect to all its provisions, so that no part will be inoperative or superfluous, void or insignificant.") (quoting *Hibbs v. Winn*, 542 U.S. 88, 101 (2004)) [Removed brackets]; *Hague v. Committee for Industrial Organization*, 307 U.S. 496, 529-530 (1939) (opinion of Stone, J.).

67. 561 U.S. at 611-12.

68. BITLAW, "The History of Software Patents: From Benson, Flook, and Diehr to Bilski and Mayo v. Prometheus" (last viewed Mar. 1, 2015) *available at* http://www.bitlaw.com/software-patent/history.html. *See also* Organization for Economic Co-operation and Development, "Patents, Innovation, and Economic Performance" page 140 n. 31.

69. *Id*.

70. *Id*.

It was under these guidelines that the very first software patent was granted in 1968.[71] This patent related to a sorting system. The patent described a heretofore unknown algorithm for sorting large datasets stored on magnetic tapes. It claimed the actions of the coordinated tape drives in addition to the algorithmic process. The act of granting this patent would open the floodgates to software patents leading to the rise of Microsoft.[72]

The Supreme Court did not wade into the battle over the eligibility of software programs for a number of years. It finally decided to answer this question in 1972. The Court answered with a resounding "no," holding that software by itself, untethered from any specific machine, was unpatentable.[73] The Court again, only a few years later, reinforced this response, holding that tacking known steps onto the end of algorithm does not make the algorithm patentable.[74]

B. The 1980's

However, in the 1980's the Supreme Court forced the USPTO to change its stance on the issue. In 1981, the Supreme Court ordered the USPTO to grant a patent on a software program in *Diehr*. The Court did so because the algorithm was used to "transform" the product, even though the only new feature this invention had was the timing process the computer controlled.[75] This case led to uncertainty for inventors and examiners in determining when algorithms cross the magic line to become patentable. In fact, the 1981 case included a vigorous dissent arguing that such confusion was the only inevitable result.[76] The only thing left clear after these series of cases was that the eligibility of a software program for patent protection relied heavily on careful claim construction by a patent attorney.

During this period of Supreme Court involvement the CCPA struggled to establish a workable test following the Court's decisions. Beginning in *In re Freeman*[77] in 1978 and stretching to *In re Meyer*[78] in 1982, the CCPA

---

71. U.S. Patent No. 3,380,029 (issued Apr. 23, 168).
72. *See* Charles Arthur, "Software Patents 'a bit of a mess' says Martin Goetz, the First Man to get one" THE GUARDIAN (Jan. 24, 2013) ("[The granting] marked a watershed that would eventually lead to the rise of Microsoft, and then to the "smartphone patent wars" that have been fought out between Apple, Samsung, Motorola, Microsoft, HTC and Google.")
73. *Gottschalk*, 409 U.S. 63.
74. *Flook*, 437 U.S. 584
75. BITLAW "The History of Software Patents: From Benson, Flook, and Diehr to Bilski and Mayo v. Prometheus" (last viewed Mar. 1, 2015) *available at* http://www.bitlaw.com/software-patent/history.html.
76. "[This case aggravates the problem that] the cases considering the patentability of program-related inventions do not establish rules that enable a conscientious patent lawyer to determine with a fair degree of accuracy which, if any, program-related inventions will be patentable." 450 U.S. at 219 (Stevens J., dissenting).
77. 573 F.2d 1237, 197 USPQ 464 (CCPA 1978).
78. 688 F.2d 789, 215 USPQ 193 (CCPA 1982).

formed a two-step test, called the Freeman-Walter-Abele Test,[79] hoping to alleviate the problem of eligibility uncertainty left in the wake of the string of Court cases. The first step asked whether a claim recited, directly or indirectly, a formula, "mental step," or mathematical algorithm.[80] If so, the second step involved determining whether the claim involves application of the algorithm to a specific element or process.[81] Then, in late 1982, the Federal Circuit was established, replacing the CCPA, and taking away jurisdiction for patent cases from the regional Circuit Courts.

C. The 1990's

Desperately seeking to provide some guidance on this issue, the Federal Circuit stepped into the fray. The Federal Circuit is the highest court in the land for patent matters, other than the Supreme Court.[82] The Federal Circuit, however, struggled with the same problems regarding algorithms that the CCPA was grappling with in the wake of *Gottschalk* and its progeny.[83] The first significant appellate decision on the matter

---

79. It was named after three CCPA cases from the late 1970's and early 1980's.

80. This step is fraught with ambiguity itself. The courts have had issue deciding what constitutes an "algorithm." *See In re Trovato*, 42 F.3d 1376, 1379, 33 USPQ2d 1194, 1197 (Fed. Cir. 1994), vacated & remanded, 60 F.3d 807, 35 USPQ2d 1570 (Fed. Cir. 1995), ("Although the claimed process is not expressed in terms of a mathematical formula, application of the Freeman-Walter-Abele test is more refined than this simple determination. Our precedent also recognizes that '[w]ords used in a claim operating on data to solve a problem can serve the same purpose as a formula.'") (quoting In re Grams, 888 F.2d 835, 12 USPQ2d 1824 n.1 (1989)); *In re Gelnovatch*, 595 F.2d 32, 201 USPQ 136 (CCPA 1979) (method of determining a set of values for use in a mathematical model of a microwave circuit is an algorithm); *In re Pardo*, 684 F.2d 912, 214 USPQ 673 (CCPA 1982) (method of controlling the internal operation of a computer is not an algorithm even when application's specification described the method as an "algorithm.").

81. Like Step One of the test, this step is prone to ambiguity, contracting and expanding over time. *Compare In re Freeman*, 573 F.2d at 1245 (looking to claim preemption, "whether [the claim] in its entirety wholly preempts that algorithm.") *with In re Walter*, 618 F.2d 758, 767 205 USPQ 397, 407 (CCPA 1980) (restating it in terms other than preemption, "[i]f it appears that the mathematical algorithm is implemented in a specific manner to define structural relationships between the physical elements of the claim (in apparatus claims) or to refine or limit claim steps (in process claims), the claim being otherwise statutory, the claim passes muster under § 101. If, however, the mathematical algorithm is merely presented and solved by the claimed invention, as was the case in *Benson* and *Flook*, and is not applied in any manner to physical elements or process steps, no amount of post-solution activity will render the claim statutory; nor is it saved by a preamble merely reciting the field of use of the mathematical algorithm.")

82. United States Court of Appeals for the Federal Circuit "Court Jurisdiction" *available at* http://www.cafc.uscourts.gov/the-court/court-jurisdiction.html (last viewed Mar. 2, 2015).

83. *See In re Iwahashi*, 888 F.2d 1370, 1374, 12 USPQ2d 1908 (Fed. Cir. 1989) ("every step-by-step process, be it electronic or chemical or mechanical, involves an algorithm in the broad sense of the term."); *In re Grams*, 888 F.2d 835, 12 USPQ2d 1824 (1989) (A method for choosing a set of optimal microwave circuit elements is a mathematical algorithm); *Alco Standard Corp. v. Tennessee Valley*

involving an approved patent, and not a patent application itself, occurred in 1992.[84] The court held that because it had the steps of "'converting,' 'applying,' 'determining,' and 'comparing' [which] are physical process steps that transform one physical, electrical signal into another,"[85] this patent goes to eligible subject matter.[86] The court sought to clear up more of the confusion regarding algorithms summarizing Supreme Court precedent up to that time as asking "whether the invention or discovery for which an award of patent is sought is more than just a discovery in abstract mathematics." [87] Concluding that "[w]here the invention or discovery is only of mathematics, the invention or discovery is not the 'kind' of discovery the patent law was designed to protect and even the most narrowly drawn claim must fail."[88]

One of the cases decided by the Federal Circuit that provided guidance during this tumultuous decade was *In re Lowry*.[89] The case involved a patent application for storage, use, and management of information in a computer memory. The application was rejected by the examiner as nonstatutory subject matter. This finding was reversed by the Board of Patent Appeals and Interferences ("BPAI") that found it statutory, but proceeded to use the "printed matter exception"[90] to deny the data structures any patentable weight for the § 102 and § 103 inquiry. The Federal Circuit reversed this decision, finding that the "printed matter exception" applies only to "arrangements of printed lines or characters, useful and intelligible only to the human mind."[91] Since data structures (and computer programs) are read by a computer and not the mind, the printed matter exception did not apply here. Therefore the court suggested

---

Authority, 808 F.2d 1490, 1496 1 USPQ2d 1337 (Fed. Cir. 1986) ("[t]he inclusion in a patent of a process that may be performed by a person, but that also is capable of being performed by a machine, is not fatal to patentability.") *In re Schrader*, 22 F.3d 290, 293 30 USPQ2d 1455 (Fed. Cir. 1994) (a mathematical algorithm was implicit in the claim to an auction method because the claim involves determining the optimal combination of bids and "is within or similar to a class of well-known mathematical optimization procedures commonly applied to business problems called linear programming.").

84. *See Arryhythmia Research Technology, Inc. v. Corazonix Corp.*, 958 F.2d 1053, 22 USPQ2d 1033 (Fed. Cir. 1992) (the invention involved an analysis of electrocardiographic signals in order to determine characteristics of the heart function).

85. 958 F.2d at 1059. *See also* 958 F.2d at 1059 ("[The] claimed method comprises an otherwise statutory process whose mathematical procedures are applied to physical process steps.").

86. The Federal Circuit seems to apply a machine-or-transformation test here relying on the "transformation" of electrical signals to determine eligibility.

87. *In re Alappat*, 33 F.3d 1526, 1557 (Fed. Cir. 1994).

88. *Id*.

89. 32 F.3d 1579 (Fed. Cir. 1994).

90. The exception asks "whether there exists any new and unobvious functional relationship between the printed matter and the substrate" and if not "the printed matter must be considered [but] it may not be entitled to [any] patentable weight." *In re Gulack*, 703 F.3d 1381, 1385-86 (Fed. Cir. 1983).

91. 32 F.3d at 1583 (quoting *In re Bernhart*, 417 F.2d 1395, 1399, 163 USPQ 611, 615 (CCPA 1969)).

that memory that contains a data structure is eligible subject matter and should be considered in determining novelty and non-obviousness.

The Federal Circuit provided further guidance going into the new millennium in the case *State Street Bank & Trust Co. v. Signature Financial Group Inc.*[92] in 1998. The patent involved the use of a "Hub and Spoke" computer structure for managing mutual funds.[93] The court continued the use of some variation of a useful application test for determining the patentability of a mathematical algorithm.[94] The court also noted that use of the Freeman-Walter-Abele test in its current state was becoming untenable[95] and that it "has little, if any, applicability to determining the presence of statutory subject matter."[96] The court focused on the fact that the software produced a useful, concrete, and tangible result in determining that the "Hub and Spoke" computer structure was claiming eligible subject matter.[97]

This line of cases established that, at least in the 1990's, a software program was eligible for patent protection as long as the program was controlling a computer or was stored on computer-readable media and produced a useful, concrete, and tangible result. These requirements were easy to meet during the drafting stage of patent claims and did not present much of an impediment to patentability.

D. The 2000's

Having done away with the confusing Freeman-Walter-Abele test, the Federal Circuit and the District Courts were left searching for a new means of determining subject matter eligibility.

The Federal Circuit finally settled on the "machine-or-transformation test" as the sole test in the case *In re Bilski*[98] in 2008. The court settled on this test after again dismissing the Freeman-Walter-Abele test, adding the final nail in the coffin for that test, and tersely dismissing the "useful, concrete, and tangible result test" from *State Street*.[99] The newest test had a two parts: the applicant had to show that the claimed patent 1) was either tied to a particular machine or 2) transformed an article from one state to another.

---

92. 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093 (1999).
93. The method involved mutual funds (Spokes) pooling their assets in an investment portfolio (Hub) which is organized as a partnership. *See* 149 F.3d at 1370.
94. *See* 149 F.3d at 1373 ("[T]o be patentable an algorithm must be applied in a 'useful' way.").
95. *See Id*. at 1374 n.5 ("The test has been the source of much confusion.").
96. *Id*. at 1374.
97. *Id*. at 1375.
98. 545 F.3d 943 (Fed. Cir. 2008).
99. *Id*.

E. The 2010's

However, any certainty provided by this decision was quickly lost when the Supreme Court decided *Bilski v. Kappos*.[100] The Court rejected the "machine-or-transformation test" as the sole test for patentability, holding that it is merely a clue to eligibility. What other "clues" an examiner, inventor, drafter, or court should look to were left unenumerated. The Court also proceeded to lump "laws of nature," "natural phenomena," and "abstract ideas" into a nebulous category referred to as "fundamental principles."[101] This decision has been met with skepticism,[102] uncertainty,[103] and confusion.[104]

In response to the logic applied by the Supreme Court in *Bilski* and seeking to provide some form of guidance during the tumultuous time post-*Bilski*, the USPTO released to patent examiners and the public-at-large an Interim Guidance Report for determining eligibility.[105] This Guidance lists a number of factors and sub-factors that patent examiners should address when determining eligibility for process claims. Not looking to reverse years of established eligibility determinations using the "machine-or-transformation" test that the Guidance made the most thorough factor, with the highest number of sub-factors, weighing toward eligibility the "[r]ecitation of a machine or transformation (either express or inherent)."[106] As well, the BPAI continued to largely rely on the "machine-or-transformation" test in determining whether a claim is drawn to an abstract idea.[107]

---

100. 561 U.S. 593 (2010).

101. 545 F.3d at 952, n.5.

102. *See* Chisum on Patents § 1.03[6][m] ("*Bilski* is a remarkably inconclusive contribution to the law on patent-eligible subject matter.")

103. *See* Andrew T. Spence & Kimberly B. Gatling, "Uncertainy Abounds: Patentable Subject Matter Almost Two Years after Bilski v. Kappos" Bloomberg BNA's Patent, Trademark, & Copyright Journal 83 PTCJ 501 (Feb. 10, 2012) *available at* http://www.smithmoorelaw.com/files/upload/SpenceGatling.pdf; Michael Risch, "*Bilski* and (Thankfully) Continued Uncertainty in Patentable Subject Matter" PrawfsBlawg (Jun. 28, 2010 at 12:55 PM) *available at* http://prawfsblawg.blogs.com/prawfsblawg/2010/06/bilski-and-thankfully-continued-uncertainty-in-patentable-subject-matter.html.

104. *See* Jerrold E. Fink & Jiri Mestecky, "*Bilski v. Kappos*: Patent Protection for the Information Age?" Masuda Funai (Mar. 30, 2011) *available at* http://www.masudafunai.com/showarticle.aspx?Show=6416. ("[T]he Court's 5 to 4 ruling settles very little and creates further uncertainties and confusion not only for future patent applicants, but also for those whose applications are now pending.").

105. "Interim Guidance for Determining Subject Matter Eligibility for Process Claims in View of *Bilski v. Kappos*," 75 Fed. Reg. 43, 922 (Jul. 27, 2010) *available at* http://www.uspto.gov/sites/default/files/patents/law/exam/bilski_guidance_27jul2010.pdf.

106. *Ibid*. at 43, 927 (Recitation of a machine or transformation (either express or inherent) includes six subfactors compared with a total of five subfactors for all the other categories combined).

107. *See* Ex Parte Frank A. Hunleth, et al., No. 2009-5621, 2010 Pat. App. LEXIS 17747, 1-2 (Nov. 10, 2010) (applying the "machine-or-transformation" test and rejecting as unpatentable "a system and method for a framework for organizing,

The Federal Circuit has also struggled in the post-*Bilski* era. One of the first cases to apply *Bilski* in the Federal Circuit, *Research Corp. Technologies, Inc. v. Microsoft Corp.*,[108] concerned the issue of "digital image halftoning." The court found this application was outside the laws of nature or physical phenomena exception, but may be within the abstract idea exception. It concluded that the claimed "digital image halftoning" was patent eligible subject matter.[109] Noting that the Court in *Bilski* refused to define abstract ideas, the court also decided not to define the term except in the broadest language possible.[110] Using broad language, the court "perceiv[ed] nothing abstract in the subject matter of the processes,"[111] even though the claimed method incorporated algorithms and formulas that controlled halftoning. The court relied on *Diehr* and held that the claims must be considered as a whole and the inventors sought patent protection for a process of halftoning in computer applications.

The Federal Circuit considered abstract ideas only a short time later in *Cybersource Corp. v. Retail Decisions, Inc.*.[112] The patent concerned detecting credit card fraud in internet transactions. The court found that the patent claims were directed to ineligible subject matter.[113] The court showed less trepidation toward finding something to illustrate an abstract idea, providing a slightly more concrete definition.[114] The court distinguished *Research Corp.* because the method there required the manipulation of computer data structures and output of a modified data structure. In <u>Cybersource</u>, the entire method could be performed by the human mind.[115]

---

selecting and launching media items"). *See also* Joseph A. Herndon and Nicole Grimm "Patentability of Process Claims and Business Method Inventions with No "Machine or Transformation" Volume 9 Snippets Issue 4, McDonnell Boehnen Hulbert & LLP, 4 (Fall 2011) ("Generally, the BPAI has found valid very few claims that lack a specific recitation of a machine or transformation.") *available at* http://www.mbhb.com/files/FirmService/9750fb27-58ec-4dc9-a87a-d7be1f65cce1/Presentation/ceSnippetIssue/Snippets%20Vol%209%20Issue%204_111411-FINAL.pdf.

108. *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010).

109. *Ibid.* at 869 ("[T]he inventions claimed in the . . . patents are directed to patent-eligible subject matter.").

110. *Ibid.* at 868 "[This court] will not presume to define 'abstract' beyond the recognition that this disqualifying characteristic should exhibit itself so manifestly as to override the broad statutory categories of eligible subject matter and the statutory context that directs primary attention on the patentability criteria of the rest of the Patent Act."

111. *Ibid.* at 868.

112. 654 F.3d 1366 (Fed. Cir. 2011).

113. *Id.* at 1376-77 ("Because [the] claims . . . attempt to capture unpatentable mental processes (i.e., abstract ideas), they are invalid under § 101.").

114. *Id.* at 1373 ("[A] method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101.").

115. *Id.* at 1376 ("[T]he method consists of only the general approach of obtaining information about credit card transactions utilizing an Internet address and then using that information in some undefined manner to determine if the credit card transaction is valid.").

The Federal Circuit again distinguished its precedent in *Ultramercial, LLC v. Hulu, LLC*.[116] There the patent claimed a method for distributing copyrighted products over the internet for free in exchange for watching an advertisement and the advertiser paying for the copyrighted content. The court found that using advertising "as a form of currency is abstract," but the patent "claims a particular method of monetizing copyrighted products."[117] Ultimately concluding that the patent was directed to eligible subject matter, the court found the interaction with consumers via the internet to be "something far removed from *purely* mental steps" and therefore distinguishable from *Cybersource*.[118] The court also relied on the fact that "[m]any of these steps are likely to require intricate and complex computer programming."[119] It noted that the patent "disclose[d] a practical application" of this idea with concrete steps for implementation.[120] The court also seemed to hint that a programed computer could be considered a "particular machine" for the practical application requirement[121] relying on public policy.[122]

The Federal Circuit relied on *Bilski* and *Ultramercial* in finding a patent claiming a computer-aided method and system for processing credit application over electronic networks was directed to unpatentable subject matter. The patent was considered akin to the one rejected in *Bilski* because it went to the abstract idea of a clearinghouse.[123] The court distinguished *Ultramercial*, finding that the use of the words "computer-aided" without any specificity of the level or detail of computer involvement did not meet the practical application with concrete steps reasoning used in *Ultramercial*.[124]

One important point that coalesced during this period was the reliance by the Federal Circuit on the part played by the computer in a patent. A succinct statement of this idea is that "[i]n order for the addition of a [computer] to impose a meaningful limit on the scope of a claim, it must play a significant part in permitting the claimed method to be performed, rather than function solely as an obvious mechanism for permitting a solution to be achieved more quickly."[125]

---

116. 657 F.3d 1323 (Fed. Cir. 2011), *cert. granted, vacated and remanded sub nom. WildTangent v. Ultramercial, LLC*, for reconsideration in light of Mayo *Collaborative Services v. Prometheus Laboratories*, 132 S. Ct. 1289 (2012), aff'd on remand, 722 F.3d 1335 (Fed. Cir. 2013).
117. *Id*. at 1328.
118. *Id*. at 1329.
119. *Id*. at 1328.
120. *Id*.
121. *Id*. at 1329 ("[A] programmed computer contains circuitry unique to that computer.").
122. *Id*. ("Far from abstract, advances in computer technology—both hardware and software—drive innovation in every area of scientific and technical endeavor.").
123. *DealerTrack, Inc. v. Huber*, 674 F.3d 1315, 1333 (Fed. Cir. 2012).
124. *Ibid.* at 1334.
125. *Sirf Tech., Inc. v. ITC*, 601 F.3d 1319, 1333 (Fed. Cir. 2010). *See also Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Canada*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) ("To salvage an otherwise patent-ineligible process, a computer must be

III. THE *ALICE* DECISION

It was in this strange, uncertain, and often conflicting time that the *Alice* decision arose. The patents at issue were a family of patents owned by the Alice Corporation.[126] Of these patents, Alice Corporation was granted the first one in 1999 and the fourth and final one in 2010. The patents concern "the management of risk relating to specified, yet unknown, future events."[127] More particularly the patent went to "a computerized trading platform used for conducting financial transactions in which a third party settles obligations between a first and a second party so as to eliminate counterparty or settlement risk."[128] The patents claim (1) the method for exchanging obligations (the asserted method claim),[129] (2) a computer system organized for implementing the method for exchanging obligations (the systems claim),[130] and (3) a computer-readable medium

---

integral to the claimed invention, facilitating the process in a way that a person making calculations or computations could not."); Fort Props., Inc. v. Am. Master Lease LLC, 671 F.3d 1317 (simply adding a computer limitation to abstract concept claims was an insignificant post-solution activity).

126. The family had four patents: U.S. Patents 5,970,479 (the "'479 patent"), 6,912,510 (the "'510 patent"), 7,149,720 (the "'720 patent"), and 7,725,375 (the "375 patent").

127. '479 patent col. 1, ll. 8-10.

128. *CLS Bank Int'l v. Alice Corp. Pty*, 717 F.3d 1269, 1274 (Fed. Cir. 2013) (internal citations omitted).

129. '479 patent col. 65 ll. 23-50 ("33. A method of exchanging obligations as between parties, each party holding a credit record and a debit record with an exchange institution, the credit records and debit records for exchange of predetermined obligations, the method comprising the steps of: (a) creating a shadow credit record and a shadow debit record for each stakeholder party to be held independently by a supervisory institution from the exchange institutions; (b) obtaining from each exchange institution a start-of day balance for each shadow credit record and shadow debit record; (c) for every transaction resulting in an exchange obligation, the supervisory institution adjusting each respective party's shadow credit record or shadow debit record, allowing only these transactions that do not result in the value of the shadow debit record being less than the value of the shadow credit record at any time, each said adjustment taking place in chronological order; and (d) at the end-of-day, the supervisory institution instructing ones of the exchange institutions to exchange credits or debits to the credit record and debit record of the respective parties in accordance with the adjustments of the said permitted transactions, the credits and debits being irrevocable, time invariant obligations placed on the exchange institutions.") (emphasis added).

130. '720 patent col. 65 ll. 42-61 ("1. A data processing system to enable the exchange of an obligation between parties, the system comprising: a data storage unit having stored therein information about a shadow credit record and shadow debit record for a party, independent from a credit record and debit record maintained by an exchange institution; and a computer, coupled to said data storage unit, that is configured to (a) receive a transaction; (b) electronically adjust said shadow credit record and/or said shadow debit record in order to effect an exchange obligation arising from said transaction, allowing only those transactions that do not result in a value of said shadow credit record; and (c) generate an instruction to said exchange institution at the end of a period of time to adjust said credit record and/or said debit record in accordance with the adjustment of said shadow credit

containing program code for performing the method for exchanging obligations (the computer-readable medium claim).[131]

The case began on May 24, 2007 when CLS brought suit against Alice seeking a declaratory judgment of non-infringement, patent invalidity, and patent unenforceability under the Patent Act. Alice counterclaimed that CLS was infringing three of its patents: the '479, '510, and '720 Patents. After discovery, CLS moved in March 2009 for summary judgment on the basis that (1) any patent infringement by CLS was not occurring in the United States, and (2) Alice's claims lacked patentable subject matter. The district court denied CLS's motion finding that CLS both uses its CLS Core System and offers to sell or sells its methods within the US. The case was then delayed pending the ruling in *Bilski v. Kappos*. After that decision was handed down, Alice amended its counterclaim to include the '375 Patent. CLS moved for summary judgment regarding the lack of patentable subject matter. After hearing oral arguments on the matter, the district judge ruled in favor of CLS finding the patents were directed to ineligible subject matter.

A. The Federal Circuit Decision

After lengthy oral arguments and receiving a plethora of amicus curiae briefs, the Federal Circuit could only agree on a one paragraph *per curiam* opinion:

---

record and/or said shadow debit record, wherein said instruction being an irrevocable, time invariant obligation placed on said exchange institution.") (emphasis added).

131. '375 patent col. 68, ll. 5-35 ("39. A computer program product comprising a computer readable storage medium having computer readable program code embodied in the medium for use by a party to exchange an obligation between a first party and a second party, the computer program product comprising: program code for causing a computer to send a transaction from said first party relating to an exchange obligation arising from a currency exchange transaction between said first party and said second party; and program code for causing a computer to allow viewing of information relating to processing, by a supervisory institution, of said exchange obligation, wherein said processing includes (1) maintaining information about a first account for the first party, independent from a second account maintained by a first exchange institution, and information about a third account for the second party, independent from a fourth account maintained by a second exchange institution; (2) electronically adjusting said first account and said third account, in order to effect an exchange obligation arising from said transaction between said first party and said second party, after ensuring that said first party and/or said second party have adequate value in said first account and/or said third account, respectively; and (3) generating an instruction to said first exchange institution and/or said second exchange institution to adjust said second account and/or said fourth account in accordance with the adjustment of said first account and/or said third account, wherein said instruction being an irrevocable, time invariant obligation placed on said first exchange institution and/or said second exchange institution.") (emphasis added).

> Upon consideration en banc, a majority of the court affirms the district court's holding that the asserted method and computer-readable media claims are not directed to eligible subject matter under 35 U.S.C. § 101. An equally divided court affirms the district court's holding that the asserted system claims are not directed to eligible subject matter under that statute.[132]

The Federal Circuit was otherwise "irreconcilably fractured" with regards to any sort of analysis.[133] The plurality opinion written by Judge Lourie began with a lengthy discussion regarding common law and Supreme Court decisions in relation to § 101. He noted a number of common themes in Supreme Court decisions in this field including: a desire to prevent preemption;[134] avoiding overly formalistic test approaches;[135] and urging a flexible, claim-by-claim approach.[136] The plurality interpreted *Mayo*[137] to require a court to first "indentif[y] the abstract the idea represented in the claim," and then to determine "whether the balance of the claim adds 'significantly more.'"[138] Applying these themes and precedent, Judge Lourie found that the asserted method,[139] computer-readable medium,[140] and system claims[141] of all four patents were invalid under § 101.

A lengthy opinion written by Chief Judge Rader concurred in part and dissented in part. He focused on the history of the text of § 101, the scope

---

132. 717 F.3d at 1273

133. *Id*. at 1314 (Moore, J., dissenting) (lamenting that the "court is irreconcilably fractured over these system claims and there are many similar cases pending before our court and the district courts.").

134. *Id*. at 1280 ("Preemption features prominently in the Supreme Court's recent § 101 decisions."). *But see* 717 F.3d at 1281 ("[T]he proper focus is not preemption *per se . . .* Rather the animating concern is that claims should not be coextensive with a natural law, natural phenomenon, or abstract idea; a patent-eligible claim must include one or more substantive limitations.").

135. *Id*. at 1281 ("[C]laim drafting strategies that attempt to circumvent the basic exceptions to § 101 using, for example, highly stylized language, hollow field-of-use limitations, or the recitation of token post-solution activity should not be credited.").

136. *Id*. at 1281 ("Bright-line rules may be simple to apply, but they are often impractical and counterproductive when applied to § 101.").

137. *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2011).

138. 717 F.3d at 1286.

139. *Id*. at 1286 ("[The] claim lacks any express language to define the computer's participation . . . [and t]here is no specific or limiting recitation of essential . . . or improved computer technology.").

140. *Id*. at 1288 ("[The computer-readable medium claims] are merely method claims in the guise of a device and thus do not overcome the Supreme Court's warning to avoid permitting a 'competent draftsman' to endow abstract claims with patent-eligible status.").

141. *Id*. at 1290 ("The computer-based limitations recited in the system claims here cannot support any meaningful distinction from the computer-based limitations that failed to supply an "inventive concept" to the related method claims.").

of the limited exceptions to the "broad statutory grant" of § 101,[142] and computer-specific limitations. He agreed with the plurality that the asserted method and computer-readable medium claims were directed to ineligible subject matter, but found the system claims were not directed to ineligible subject matter.[143] A second dissent written by Justice Linn disagreed on the proper interpretation of the method claims, believing them to be misconstrued by the majority and the dissent.

B. The Supreme Court Steps In

The Supreme Court became involved in the case, hoping to untie the Gordian knot left by the Federal Circuit.[144] The Court, in a unanimous opinion, continued to beat the drum of pre-emption as the driving force of the exclusionary principle.[145] The Court, like the plurality at the Federal Circuit, relied on the framework set forth in *Mayo*. The framework involves two steps: 1) determining whether the claims are directed at a patent ineligible concept and, if so, 2) determining what else is in the claims (searching for a so-called "inventive concept" or "significantly more".)

The Court found that the claims were directed to "the abstract idea of intermediated settlement."[146] The Court relied on the *Bilski* abstract idea category to find Alice's patents an abstract idea as well. Comparing *Bilski*, the Court said that an intermediated settlement is a "fundamental economic practice long prevalent in our system of commerce."[147] The Court declined, however, to provide any further guidance on what constitutes an abstract idea, instead choosing to "not labor to delimit the precise contours of the 'abstract ideas' category in this case."[148]

The Court then continued to the second step of the framework, finding that the method claims only required generic computer implementation and therefore were not inventive concepts.[149] The Court also said that the

---

142. *Id*. at 1297.

143. *Id*. at 1311 ("[T]he claim recites a machine and other steps to enable transactions . . . [and the] "abstract idea" present here is not disembodied at all, but is instead integrated into a system utilizing machines.").

144. After over 130 pages and seven different opinions, the only thing the majority of the court could agree on was two sentences with no consensus on what standard to apply.

145. "'[M]onopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it,' thereby thwarting the primary object of the patent laws." 134 S. Ct. at 2354 (quoting *Mayo*, 132 S. Ct. at 1293).

146. 134 S. Ct. at 2355.

147. *Id*. at 2356.

148. *Id*. at 2357. *See also* 134 S. Ct. at 2357 ("It is enough to recognize that there is no meaningful distinction between the concept of risk hedging in *Bilski* and the concept of intermediated settlement at issue here. Both are squarely within the realm of "abstract ideas" as we have used that term.").

149. *Id*. at 2359 ("[M]ethod claims simply recite the concept of intermediated settlement as performed by a generic computer.").

system claims and computer-readable medium claims failed to merit patent protection for substantially similar reasons. The Court relied on the logic of the patent-eligibility trilogy of cases in reaching this conclusion.

Justice Sotomayor filed a concurring opinion, joined by Justices Ginsburg and Breyer, arguing that no business method should qualify as a process under § 101.

IV. THE FUTURE?

When *Alice* went to the Supreme Court, many commentators hoped the Court would provide guidance in this contentious area.[150] Reactions to this ruling have, however, been decidedly less hopeful,[151] occasionally bordering on hyperbolic.[152] This section will break down the *Alice* decision, examine the Federal Circuit decisions in the wake of *Alice*, and look at Europe's jurisprudence in this arena. Then it will answer the question of why even bother to get a patent when the case law is confusing and often contradictory.

A. Understanding Alice

One of the first steps to understanding this new uncertain future is to resolve what the Court is telling us in *Alice* and what it did not answer. The Court provided guidance on what standard should be applied, which fixes one of the problems inherent in the Federal Circuit decision in this case.

---

150. *See* Roger Parloff, "Supreme Court to Decide when Ideas Become too 'Abstract' to Patent," FORTUNE.COM (Mar. 28, 2014 at 9:00 A.M. EST) *available at* http://fortune.com/2014/03/28/supremecourttodecidewhenideasbecometooabstractt opatent/ ("the fact that even [the Federal Circuit] didn't have a clue how to interpret the Court's 'abstract ideas' precedents conveys the depths of the crisis that exists, and the urgency of the need for the Supreme Court to somehow supply more guidance this time around."); Julie Samuels "Hey Supreme Court? It's Time to Take Up Software Patents (Again)" Electronic Frontier Foundation (May 10, 2013) *available at* https://www.eff.org/deeplinks/2013/05/hey-supreme-court-its-time-take-software-patents ("The high court should clarify its less-than-helpful ruling in *Bilski* to reinforce that courts and the Patent Office should take § 101 seriously and strike down (or preferably not allow in the first place) the most dangerous and abstract patents."); Ronald Mann "Argument Preview: Justices have Chance to Provide Final Solution to Quandary about Patenting Software" SCOTUSBLOG (Mar. 20, 2014) *available at* http://www.scotusblog.com/2014/03/argumentpreviewjusticeshavechancetoprovide finalsolutiontoquandaryaboutpatentingsoftware/.

151. *See* Gene Quinn "A Software Patent Setback: Alice v. CLS Bank" IPWATCHDOG (Jan. 9 2015) *available at* http://www.ipwatchdog.com/2015/01/09/a-software-patent-setback-alice-v-cls-bank/id=53460/; Gene Quinn "Judge Michel says Alice Decision 'Will Create Total Chaos'" IPWATCHDOG (Aug. 6, 2014) *available at* http://www.ipwatchdog.com/2014/08/06/judge-michel-says-alice-decision-will-create-total-chaos/id=50696/.

152. *See* Ryan Davis "Alice Kills Thousands of Software Patents, Fed. Circ. Told" LAW 360 (Sep. 03, 2014 6:49 P.M. EST) *available at* http://www.law360.com/articles/573479/alice-kills-thousands-of-software-patents-fed-circ-told.

Going forward, courts will now apply the *Mayo* framework. This should provide some stability to examiners, inventors, lawyers, and judges. However, this framework is also fraught with uncertainty.

1. The First Step in the Framework (Ineligible Subject Matter)

The first step requires determining whether a patent claim is drawn to ineligible subject matter. The Court in *Alice* declined to provide any guidance on what constitutes "an abstract idea." Instead it found the claims in *Alice* to be abstract ideas by analogizing the claims in *Bilski* that were also found to be abstract ideas. Commentators have agreed with the *Alice* decision on the first step in the framework that considered the patents at issue to be simply the application of modern computers to an age-old system of intermediated settlement.[153]

However, the Court took no steps to help outline anything about what could make software an "abstract idea." It went so far as to acknowledge that it was not even going to try.[154] The language in the claims both in *Alice* and in *Bilski* does provide some guidance as to when a software patent can become "squarely within the realm of 'abstract ideas' as [the Court] has used that term."[155] If a patent is drawn to well-known practices and contains no meaningful limitations, then the patent will fall within the realm of abstract ideas. Some argue that the patents in *Alice* do contain limitations, more specifically the system claims; however, that is not an argument that will be delved into in this Note.[156] Suffice it to say that patents in *Alice* are akin to the patents in *Bilski* and are directed to "abstract idea" components.

The Court took this first part of the framework a step further by attempting to lump in all of its previous decisions into the rebranded, obscure, and indefinable "abstract idea" exception. No guidance was given

---

153. *See* John Duffy "Opinion Analysis: The Uncertain Expansion of Judge-Made Exceptions to Patentability" ScotusBlog (Jun. 20, 2014 12:46 P.M. EST) ("Alice's patents seemed to be a rather obvious application of fast, modern computers to automate very old methods of intermediated settlement") *available at* http://www.scotusblog.com/2014/06/opinionanalysistheuncertainexpansionofjudgemadeexceptionstopatentability/; Brian Fung "The Supreme Court's Decision on Software Patents Still Doesn't Settle the Bigger Question" Washington Post (Jun. 20, 2014) ("[T]he court struck down what was universally said to be a bad patent").

154. 134 S. Ct. at 2357 ("[W]e need not labor to delimit the precise contours of the "abstract ideas" category in this case. It is enough to recognize that there is no meaningful distinction between the concept of risk hedging in *Bilski* and the concept of intermediated settlement at issue here.").

155. 134 S. Ct. at 2357.

156. *See* Gene Quinn "A Software Patent Setback: Alice v. CLS" IPWatchdog (Jan. 9, 2015) ("all of the specifically recited structure and tangible components . . . unequivocally show that this claim is tethered to a machine . . . [and] the computer is also recited as specifically configured.") *available at* http://www.ipwatchdog.com/2015/01/09/a-software-patent-setback-alice-v-cls-bank/id=53460/.

on interpreting *Benson*, where a patent involving an algorithm for converting binary-coded decimal numerals into pure binary form was found ineligible, or its progeny in the new *Bilski-Mayo-Alice* era beyond what appears to be lip-service. The Court essentially said, "we found abstract ideas there too." Some commentators go so far as to argue that in light of *Bilski* and *Alice*, *Benson* was poorly decided.[157]

The *Alice* decision refused to resolve the frightening implications it created. The Supreme Court has warned against broad interpretation of judicially-created exceptions because they could swallow all of patent law, yet the Court did not demarcate any limit on these exceptions. It provided no guidance beyond, inter alia, if it looks like *Bilski/Alice* it is an "abstract idea."

2. The Second Step in the Framework (The "Inventive Concept" Step)

The second part of the *Bilski/Alice* framework is even more confusing. The second step asks what more, if anything, the claims add to the abstract idea. The mere act of searching for an "inventive concept" or determining what is "significantly more" is problematic. The use of the term "significant" necessarily injects a level of subjectivity to the test. It raises the questions of to what the patent should be compared to and how it should be measured to determine if it added more to the law of nature, natural phenomena, or abstract idea. The Court set a boundary in *Alice*, relying on the 42-year old logic from *Benson*: implementation by existing computers long in use is not an "inventive concept." However, this would seem to be contradicted by *Diehr* where the curing process for molding raw rubber, an age-old process in itself, implemented by existing computers was found patent eligible. The Court distinguished *Diehr* by relying on the fact that it "improved an existing technological process."[158] This reasoning raises a number of issues.

First, computers by their very nature are used to "improve an existing technological process." The Court provides no guidance on what this term means or any limits that should be associated with it. The computers in *Benson* were used to "improve" the "existing process" of converting binary-coded decimal numerals into pure binary numerals by improving the conversion speed, yet the Court held that the patents there were directed to ineligible subject matter.

Second, the *Alice* Court misconstrued how the *Diehr* Court went out of its way to avoid overruling *Benson* and *Flook*. The Court in *Diehr* focused

---

157. *See* Rob Merges "Symposium: Go ask Alice – What can you Patent after Alice v. CLS Bank?" SCOTUSBLOG (Jun. 20, 2014 12:04 P.M. EST) ("[T]he algorithm in *Benson* did not cover the same kind of thing as the claims in [*Bilski* and *Alice*]; and it did not cover what it did claim nearly as broadly as the claims in [*Bilski* and *Alice*].") *available at* http://www.scotusblog.com/2014/06/symposiumgoaskalicewhatcanyoupatentaftera licevclsbank/.

158. 134 S. Ct. at 2358.

instead on the fact that the application was attempting to claim the process of curing rubber and not the mathematical formula itself, which it argued *Benson* and *Flook* were attempting to claim. The problem arises in attempting to harmonize the decisions reached in each of those three cases, which is why the Federal Circuit had so many problems creating a workable standard during the nearly 30 years between *Diehr* and *Bilski*.

Third, the language "existing technological process" would seem to conflate § 101 "patentable subject matter" principles and § 103 "obviousness" principles. The § 103 "obviousness" inquiry focuses on whether the invention would be "obvious in light of prior art."[159] Prior art consists of any existing information in the public that existed before the patent was applied for including: both foreign and domestic granted patents and patent applications, scientific research, and items within the general knowledge of the general public. In contrast, the § 101 patentable subject matter inquiry is focused on whether the invention covers an area that is even eligible for patent protection, not whether it is too close to prior art.

This framework also recalls a now defunct test from the 1940's, called the "flash of genius" test. This test was created in *Cuno Engineering Corp. v. Automatic Devices Corp.*[160] where the Court stated that "the new device, however useful it may be, must reveal the flash of creative genius, not merely the skill of the calling."[161] This test was rejected a little over a decade later when Congress enacted its 1952 provisions to the patent statute. Congress instead codified the standard of non-obviousness in § 103.

One suggestion made to help solve the problems inherent in the second step is to use cited prior art as the basis for comparison. This solution would, in effect, turn step two "into a modified prior art analysis."[162] The argument goes that if the cited prior art is "more" than an abstract idea and the application is "more" than the cited prior art, the application must be "significantly more" than an abstract idea. This argument sounds good on paper; it would, however, lead to mini-trials within the main trial itself. The courts would have to determine that the cited prior art is "more" than an abstract idea first before it can rely on the cited prior art finding to lead to the "significantly more" conclusion. The mere fact that a patent has been granted is not a guarantee that it claims "more" than an abstract idea.[163]

---

159. 132 S. Ct. at 1303.

160. 314 U.S. 84 (1941).

161. *Id*. at 91.

162. John Kong "Surviving §101 Step 2: Is there 'Significantly More'" IPWatchdog (Dec. 21, 2014) *available at* http://www.ipwatchdog.com/2014/12/21/surviving-%C2%A7101-step-2-is-there-significantly-more/id=52745/.

163. *See Alice*, 134 S. Ct. 2347 (patents claiming computerized intermediated settlements directed to an abstract idea); *CyberSource*, 654 F.3d 1366 (patents for detecting internet credit card fraud directed to an abstract idea); *DealTracker*, 674 F.3d 1315 (patent for processing a credit application over the internet directed to an abstract idea).

3. Other Arguments and Issues

One argument raised is that it is unreasonable to judge these claims on newly-evolved patent eligibility standards, since the claims were written 16 years ago when standards were different.[164] If patents are to be considered a form of property, laws should not be applied retroactively. To judge a patent based on a moving target is fundamentally unfair and unconscionable. It strips someone of a property right using a new standard not in place when the patent was drafted. It is wrong to invalidate claims that were drafted during a previous era by using *Bilski*.

This argument raises a number of issues. Principally, this argument focuses on the fact that these exceptions are judicially created. Judicially-created exceptions, especially as used by the Supreme Court, are fraught with uncertainty. A court must hear the case before it can decide on the applicability of the exception. Further, the amount of time it takes for a court to hear a case can mean it is years, if not decades, before a final decision is handed down. For example, the application at issue in *Bilski* was filed in 1996, but a final decision was not even handed down until 2010, 14 years later.

It is also noted that *Alice* could have been more easily solved using § 103 and the "obviousness" requirement, thereby avoiding the eligibility quandary the Court created.[165] The commentator noted this would have allowed the Court to rely on the Act enacted by Congress instead of an exception created by judges. Surprisingly, the "textualists" of the Court let judge-made exceptions control, going so far as to expand their scope.

What is completely staggering about the *Alice* decision is that fact that not once in its opinion does the Supreme Court use the word "software." The Supreme Court seems to have deliberately avoided having to decide if software is patentable, but this decision could strike at the very heart of software patents.[166] One commentator noted that IBM's Watson claims may now be patent ineligible under *Alice*.[167]

---

164. *See* Gene Quinn "A Software Patent Setback: Alice v. CLS" IPWATCHDOG (Jan. 9, 2015) ("It is difficult to understand why it is fair to be judging these patents based on the disclosure standards and patent eligibility standards that have evolved over the past several years anyway.") *available at* http://www.ipwatchdog.com/2015/01/09/a-software-patent-setback-alice-v-cls-bank/id=53460/.

165. *See* John Duffy "Opinion Analysis: The Uncertain Expansion of Judge-Made Exceptions to Patentability" SCOTUSBLOG (Jun. 20, 2014 12:46 P.M.) *available at* http://www.scotusblog.com/2014/06/opinionanalysistheuncertainexpansionofjudgemadeexceptionstopatentability/.

166. *See* Gene Quinn "A Software Patent Setback: Alice v. CLS" IPWATCHDOG (Jan. 9, 2015) ("[E]ach of the ways software has been traditionally claimed were ruled to result in patent ineligible claims.") *available at* http://www.ipwatchdog.com/2015/01/09/a-software-patent-setback-alice-v-cls-bank/id=53460/; Ryan Goellner "Alice Kills: Is Alice v. CLS the Destruction of Software and Business Method Patents as We Know Them?" University of Cincinnati Law Review (Sep. 30, 2014) ("Requiring [a showing of adequate transformation before considering software and business methods to be patentable

B. The Federal Circuit Deals with Alice

Since *Alice* was decided, the Federal Circuit has decided nine cases that have grappled with this uncertain new test. The first case was *Digitech Image Techs., LLC v. Electronics for Imaging, Inc.*,[168] decided less than a month later. The court determined that a patent that described a process of combining two data sets into a single data set, the device profile, "claims an abstract idea . . . and is not tied to a specific structure or machine."[169] Therefore, the patent claims constituted ineligible subject matter. The court did not provide much guidance here except that it continued to use of the machine-or-transformation test, and it said that broad method claims are likely abstract ideas. The court did provide some guidance in *I/P Engine, Inc. v. AOL Inc.*[170], in a concurring opinion, regarding what might constitute "significantly more." The concurrence emphasized that § 101 mandates that claims disclose an "advance in science or technology" that is "both significant and well-defined."[171] It also emphasized the "give and get"[172] policy underlying the "technological arts test" as another important factor. However, the Federal Circuit rejected the "technological arts test" in *In re Bilski*.

The Federal Circuit seemed to expand the test for determining eligibility in *Planet Bingo, LLC v. VKGS LLC*.[173] It did this by citing to part of the district court opinion that discussed the "pen and paper" test, which asks whether the method "consists solely of mental steps which can be carried out by a human using pen and paper."[174] Because the patent at issue involved managing a game of bingo, which consisted solely of steps that a human can do using pen and paper, the patent claimed ineligible subject matter. The court relied not only on the fact that the steps could be

---

subject matter] might extinguish patent protection for software and business methods all together.") *available at* http://uclawreview.org/2014/09/30/alice-kills-is-alice-v-cls-the-destruction-of-software-and-business-method-patents-as-we-know-them/.

167. *See* Gene Quinn "A Software Patent Setback: Alice v. CLS" IPWATCHDOG (Jan. 9, 2015) ("[S]ome of the claims to IBM's Watson computer . . . seem to be quite clearly patent ineligible based on the <u>Alice</u> decision of the Supreme Court.") *available at* http://www.ipwatchdog.com/2015/01/09/a-software-patent-setback-alice-v-cls-bank/id=53460.

168. 758 F.3d 1344 (Fed. Cir. 2014).

169. *Id*. at 1350. The machine section of the machine-or-transformation test continues to be a decisive factor.

170. 576 Fed. Appx. 982 (Fed. Cir. 2014).

171. *Id*. at 993.

172. *Id*. at 994 ("The give and the get" states that "applicants who make little, if any, substantive contribution to the existing body of scientific and technological knowledge should not be afforded broad monopoly rights that potentially stifle future research and development.").

173. *Id*. at 1005 (Fed. Cir. 2014).

174. *Id*. at 1007 (internal citations omitted).

done by existing computers long in use, but also that the steps could be "done mentally."[175]

Going forward, the Federal Circuit has struggled to rectify the opinion in the *Diehr* case with the language from the *Alice* case.[176] Because, under *Alice*, the addition of a "machine" (i.e., a generic computer) by itself does not add a patentable limitation (i.e., "significantly more) to an otherwise known method or apparatus. The Federal Circuit has attempted to define when a machine will impose a meaningful limitation on the scope of the claim. The Federal Circuit in *Versata Dev. Group, Inc. v. SAP Am., Inc.*[177] relied on language from a case that was pre-*Alice* to provide some guidance, but this language seems to be at odds with the patent in *Diehr*.[178] In fact, some experts believe that if a *Diehr* case arose today post-*Alice* the claims would fail the rationale used in *Alice*.[179]

1. *Ultramercial* and *Hulu* Again Under *Alice*

The Federal Circuit originally delayed deciding *Ultramercial, Inc. v. Hulu, LLC*[180] pending the Supreme Court's decision in *Alice*. The court, on the third try, reversed its original holding that Ultramercial's patents were not abstract. The court found the use of commercials as an exchange or currency to be an abstract idea, and since the patent merely instructed practitioners to implement the idea in a routine manner, it failed the *Alice* test. The court again relied on the machine-or-transformation test, finding implementation of the method of distributing copyrighted media products over the Internet on a general purpose computer to be a "further reason" why the Ultramercial patent did not add "significantly more." This is the

---

175. *Id*. at 1008.

176. *Compare* OIP Techs., Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1363 (Fed. Cir. 2015) ("[R]elying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.") *with Diehr* where a computer was used to more quickly calculate cure times using the Arrhenius equation. *But see* 132 S. Ct. at 2358 where the Court attempted to distinguish *Diehr* by saying that "the claims in *Diehr* were patent eligible because they improved an existing technological process, not because they were implemented on a computer." But the improvement in the technological process was because they were implemented on a computer to more quickly calculate cure times.

177. 793 F.3d 1306 (Fed. Cir. 2015)

178. *Compare* 793 F.3d at 1335 ("In order for the addition of a machine to impose a meaningful limit on the scope of a claim, it must play a significant part in permitting the claimed method to be performed, rather than function solely as an obvious mechanism for permitting a solution to be achieved more quickly, i.e., through the utilization of a computer for performing calculations.") (citation omitted) *with Diehr* where the only improvement was the use of a general purpose computer that could quickly calculate rubber cure times using the known Arrhenius equation.

179. *See* David Stein, "The Main Event: *Alice* v. *Diehr*" USPTO TALK (Sep. 29, 2014) ("Diehr's claim fails every single criterion and rationale of patent-eligibility that courts have construed from *Alice*.") *available at* http://www.usptotalk.com/the-main-event-alice-v-diehr/.

180. 772 F.3d 709 (Fed. Cir. 2014).

first time that the Federal Circuit overruled itself using *Alice*, which shows that the *Alice* framework has expanded the ability of § 101 to invalidate abstract idea claims.

2. DDR Forging a Path

The most important decision to come out of the Federal Circuit following Alice is *DDR Holdings, LLC v. Hotels.com, L.P.*.[181] It is the only Federal Circuit decision thus far upholding the patentability of computer software. DDR was the holder of two patents that claimed systems and methods to generate composite web pages, which combined certain visual elements of a "host" website with the content of a third-party merchant. The court found that the patents claimed eligible subject matter. The court distinguished the patents from those in a number of the previous cases dealing with computer software because the claims "[did] not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet . . . [but instead were] necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks."[182] As well, the court said that the claims would pass step two of the *Alice* framework because the claims "overr[o]de the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink."[183] The court focused on the fact that the claims were addressing Internet specific problems, but it cautioned against a broad reading of the *DDR Holdings* opinion, stating that "not all claims purporting to address Internet-centric challenges are eligible for [a] patent."[184]

C. What About Foreign Countries?

Considering the confusing landscape of subject matter eligibility and the multiplicity of tests involved, it is helpful to consider the approach taken by foreign jurisdictions. Europe has taken a different path than the one taken by the United States. The European Patent Convention ("EPC") states that "programs for computers as such" are not patentable inventions.[185] Europe has a desire to use copyright law in lieu of patents and therefore, the European Patent Office ("EPO") has stated that "program listings as such are protected by copyright . . . [and for] a patent to be granted for a computer-implemented invention, a technical problem

---

181. 773 F.3d 1245 (Fed. Cir. 2014).
182. *Id*. at 1257.
183. *Id*. at 1258.
184. *Id*. at 1258. *See Ultramercial*, 772 F.3d 709 (patentee's argument that the claims were directed to the internet-centric challenge of distributing copyrighted material over the internet by preventing access to the copyrighted material until the user viewed advertising material merely recited the abstract idea of offering content in exchange for viewing advertisement along with routine use of the Internet.).
185. European Patent Convention 15th Edition (Sep. 2013) Article 52.

has to be solved in a novel and non-obvious manner."[186] European case law obliges the EPO to grant patents for inventions in multiple fields of technology where a computer program makes a technical contribution or provides a technical effect. If the business method or computer program makes a technical contribution or solves a technical problem, then the business method or computer program claims patent eligible subject matter. China takes a similar approach to Europe. The issue that arises is defining the term "technical effect." One commentator has noted, "No-one has been able to provide a stable definition for what the word 'technical [effect]' actually means in the context of patentability."[187]

D. Why Get A Patent?

Academics have spilled much ink on why inventors should patent, given the vagaries and the shifting requirements and the shifting opinions of the Court.[188] One reason is that patents give the inventor broad monopolistic rights in his invention. In essence, a patent gives an inventor the right to prevent anyone else from using that invention. However, there are other protections available to computer program and business method inventors.

One possible route that inventors can take to avoid the formal restrictions of patent law is to file for a copyright on their computer programs. A copyright establishes legal ramifications for any unauthorized copy of the software code. In order to obtain a copyright, the applicant must disclose the first 25 and last 25 pages of the source code or the object code to the copyright office.[189] The applicant may block out sections of the code that contain trade secrets.[190] This approach is flawed, however, because it may allow competitors to inspect the code and reverse-engineer a clone.

Another possible route to protect a software invention would be to apply for trade-secret protection. An inventor would not sell the trade secret protected program to a customer, but instead license the program to an end user. This approach requires a non-disclosure agreement, effectively forbidding customers from making disclosures to third parties that relate to the program or any documentation of the program. This route to protection

---

186. European Patent Office "Patents for Software? European Law and Practice" EPO.org (last viewed Mar. 15, 2015).

187. David Pearce, "In Search of a Technical Effect" Tufty the Cat Blog (Nov. 1, 2013) *available at* http://tuftythecat.blogspot.com/2013/11/in-search-of-technical-effect.html.

188. *See* John Villasenor "Why Patents and Copyright Protections are More Important than Ever" Scientific American (Nov. 14, 2013); Joe Hadzima "The Importance of Patents: It Pays to Know Patent Rules" MIT (last viewed Mar. 15, 2015) *available at* http://web.mit.edu/e-club/hadzima/pdf/the-importance-of-patents.pdf.

189. United States Copyright Office "Copyright Registration for Computer Programs" (Circular 61) (Aug. 2012) p. 2

190. *Id*. at 3

also has some problems. Non-disclosure agreements contain arduous terms to both negotiate and enforce.

V. CONCLUSION

In the end, the question becomes: should software and business methods be patent eligible at all? The second question is who should decide if software and business methods are patentable? The answer to the first question is yes. A blanket ban on eligibility would be disastrous. The purpose of patent law is to drive innovation. Preventing protection of software inventions deters innovation because the government will not protect those creations. However, an open door policy for eligibility would be just as disastrous, because software and business methods, like other inventions, need eligibility constraints, or patent law will be used to constrain the very innovations it seeks to protect.

One idea raised earlier in this Note is that § 103 could be used to determine eligibility for software and business methods, rather than the obscure and often confusing § 101 test and its "abstract idea" exception to subject matter eligibility. Looking to see if a claim is obvious under § 103 first would allow courts to side step the hornet's nest that § 101 analysis has become. The § 103 analysis has a number of inquiries: 1) the scope and content of the prior art, 2) differences between prior art and the claims at issue, and 3) the level or ordinary skill in the pertinent art.[191] The Court has been noted for conflating § 101 with the other statutory bars to patentability, including § 102, § 103, and § 112, when it considers subject matter that touches upon the eligibility exceptions it created.[192] This can be seen in both *Alice* and the case that originated the framework used in *Alice*. The *Mayo* test, which was applied in *Alice*, was merely the latest continuation of this conflation, more specifically in the second step of the framework.[193] The second step asks whether there is an "inventive concept" which closely resembles the language "inventive step" which is

---

191. The so-called "Graham factors" which came from the case Graham et al. v. John Deere Co. of Kansas City et al. 383 U.S. 1 (1966).

192. *See Flook*, 437 U.S. at 600 (Stewart, J dissenting) ("[The Court] strikes what seems to me an equally damaging blow at basic principles of patent law by importing into its inquiry under 35 U. S. C. § 101 the criteria of novelty and inventiveness. Section 101 is concerned only with subject-matter patentability. Whether a patent will actually issue depends upon the criteria of §§ 102 and 103, which include novelty and inventiveness, among many others.").

193. *See* Gene Quinn, "Killing Industry: The Supreme Court Blows Mayo v. Prometheus," IPWatchdog (Mar. 20, 2012) ("The Supreme Court also further specifically ignored the Government's objective, reasonable, and until today correct assertion that any step beyond a statement of a law of nature transforms the claim into one that displays patent eligible subject matter, with issues of whether those steps are known to be properly resolved by 102 and 103.") *available at* http://www.ipwatchdog.com/2012/03/20/supreme-court-mayo-v-prometheus/id=22920/.

used by the much of the world as the equivalent to the § 103 requirement.[194]

This method would prove helpful in the field of software and business methods, because the patents and applications the courts have rejected have been, by and large, well-known techniques that just include the add-on of using a computer. This idea is unlikely to occur, however, for a number of reasons. First, the Supreme Court has repeatedly held § 101 to be a threshold test that must be met before considering the other patentability requirements.[195] Second, it would require discovery, which would use judicial resources and time, requiring longer periods for these trials and further clogging the courts. Third, this solution has an application issue. If using § 103 first is applied to only software and business method claims, it would require the court to determine that the claims were drawn to that subject matter before the court allows discovery to determine § 103 nonobviousness.

The second question, who should decide whether software and business methods are patentable in general, is also a difficult one to answer. The Supreme Court has avoided any attempt to set clear boundaries or lay down guidelines. From the beginning, the Court has considered itself "not competent to speak" on when patent laws should be extended.[196] It has reiterated this incapacity to this day, except when it extended a judicial exception to subject matter eligibility, which further obfuscated the field.

The USPTO released interim guidelines following the *Alice* decision, hoping to provide some sort of guidance.[197] The guidelines lead examiners through the *Alice* framework and list a number of factors that constitute "significantly more." These guidelines, however, do not provide much actual assistance, as they merely recite language used by the Court in previous decisions involving "abstract ideas."[198]

---

194. *See* Dan L. Burk "The Inventive Concept in *Alice Corp. v. CLS Bank Int'l*," Max Planck Institute for Innovation and Competition 866 (Nov. 25, 2014) ("Typically the ''inventive step'' requirement, which is found in many patent systems, including as Art. 52 of the European Patent Convention, is considered equivalent to the ''non-obviousness'' requirement found in Sec. 103.") *available at* http://www.law.uci.edu/faculty/full-time/burk/burk-inventive-concept-in-alicecorp-iic-2014.pdf.

195. *See* 561 U.S. at 602 ("The § 101 patent-eligibility inquiry is . . . a threshold test.").

196. 409 U.S. at 72.

197. "2014 Interim Guidance on Patent Subject Matter Eligibility" 79 FR 74618 (Dec. 16, 2014)

198. *See* 2014 Interim Guidance on Patent Subject Matter Eligibility" 79 FR at 74624 (Examples of "significantly more" include: "Improvements to another technology or technical field;" "Improvements to the functioning of the computer itself;" "Applying the judicial exception with, or by use of, a particular machine;" "Effecting a transformation or reduction of a particular article to a different state or thing;" "Adding a specific limitation other than what is well-understood, routine and conventional in the field, or adding unconventional steps that confine the claim to a particular useful application;" or "Other meaningful limitations beyond generally linking the use of the judicial exception to a particular technological environment.").

The time has come for Congress to step into the fray. Congress needs to incorporate the judicially-created exceptions to subject matter eligibility into the Patent Act and it needs to lay out some clearer boundaries. The Court's ambiguous approach has only led to confusion. The entire language of § 101 defining eligible subject matter is "[w]hoever 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."[199] Noticeably absent is any mention, or even acknowledgement, of the three judicially-created exceptions which act to bar any ability to patent an invention. Congress needs to incorporate into the Patent Act these three exceptions, which have existed untethered to any meaningful definitions, especially the "abstract idea" exception. The Court continues to plead its incapacity to provide any sort of meaningful definitions, as it lacks personal scientific knowledge to make informed definitions.[200] This acknowledgement of lack of knowledge is especially concerning, because the Federal Circuit, as mandated by *Alice*, has been applying the § 101 analysis before claim construction has even begun.[201]

As well, unlike Congress, the Court is limited to only being able to make decisions based on the cases that are brought before it. Congress, on the other hand, can call experts, create committees to study the technology, and consider the technology as a whole before attempting to create meaningful definitions for these broad exceptions. As well, Congress is better suited to respond more quickly to the rapid advances of technology as compared to the Court. Court decisions in patent law often take decades before any definition is provided. Then that definition retroactively applies to all applications no matter how drastically that definition may alter the boundaries of the subject matter exceptions or their method of enforcement.

The complex subjective test left in the wake of *Alice* will continue to cause turmoil for courts, inventors, attorneys, and examiners until further clear guidance is given. Until this happens, we can expect years of confusion for courts, examiners, inventors, and lawyers regarding the subject matter eligibility for computer implemented inventions akin to the confusion that occurred in the thirty years between *Diehr* and *Bilski*.

---

199. 35 U.S.C. § 101

200. Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107, 2120 (Scalia, J., concurring in part and concurring in the judgment) (Justice Scalia explicitly acknowledging his inability to understand the "fine details of molecular biology" because of a lack expertise in "[his] own knowledge or even [his] own belief.").

201. *See* Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A., 776 F.3d 1343, 1349 (Fed. Cir. 2014) ("[C]laim construction is not an inviolable prerequisite to a validity determination under § 101."); 788 F.3d at 1359 (Mayer, J., concurring) ("Failure to recite statutory subject matter is the sort of 'basic deficiency,' that can, and should, be exposed at the point of minimum expenditure of time and money by the parties and the court.") (citations omitted)