

# Subject Matter Eligibility in Software Patents: “I Know It When I See It!”

Paul R. Juhasz

Paul R. Juhasz is a founder of The Juhasz Law Firm<sup>i</sup> in Houston, TX. He has been a practicing patent attorney for over 25 years, beginning his career at Pennie & Edmonds in New York and continuing on to work for such companies as Nokia as Director IP America of intellectual property in the Western Hemisphere, Symbol as VP IP and Assistant General Counsel where he served as Chairman of the Lemelson Joint Defense Group of companies that defeated the Lemelson patents, and the law firm of Williams, Morgan & Amerson in Houston, TX where he was a partner. This article represents the views and analysis of the author alone and not of Juhasz Law or any other company. For more on Juhasz Law visit the Firm’s Web site at [www.patenthorizon.com](http://www.patenthorizon.com). The author thanks Chris Frerking for reviewing the text and providing valuable feedback. © 2012.

In *Bilski v. Kappos*,<sup>ii</sup> a decision handed down on June 28, 2010, the US Supreme Court has explained that software is patentable while abstract ideas are not. With the threshold for software patentability thus clear, the new challenge faced by lower courts is applying that threshold of patentability on a case-by-case basis. In one after another post-*Bilski* decision, however, the lower courts have struggled to define this boundary line. The result is a mix of decisions with arguably no clear, coherent, and consistent guidance emerging other than “I know it when I see it.” This paper explores this case law and provides patent practitioners with the fundamentals for understanding what makes software inventions subject matter patentable. It also provides practitioners with two valuable tools for use in creating more certainty in crafting software claims to lie within 101. The first involves a novel proposition of defining the function of the claim; which if abstract will require the computer recitation to be application specific. The other is a proposition that was introduced by Juhasz Law in November 2010 which has correctly predicted the outcome of each software decision post-*Bilski* – to wit, the “physical and virtual link” approach to determining subject matter patentability.

## The Bilski Claims

In *Bilski*, the plaintiff-appellant, Bernard L. Bilski and Rand A. Warsaw sought patent protection on a claimed invention that explains how buyers and sellers of commodities in the energy market can protect, or hedge, against the risk of price changes.<sup>iii</sup> Claim 1 recites the following series of steps instructing how to hedge risk:

1. A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:
  - i. initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;
  - ii. identifying market participants for said commodity having a counter risk position to said consumers; and
  - iii. initiating a series of transactions between said commodity provider and said

market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

Claim 4 puts the concept into a simple mathematical formula and the dependent claims explain how the independent claims can be applied to allow energy suppliers and consumers to minimize risks resulting from fluctuations in market demand for energy.<sup>iv</sup>

The patent examiner rejected petitioners' application, explaining that it "is not implemented on a specific apparatus and merely manipulates [an] abstract idea and solves a purely mathematical problem without any limitation to a practical application, therefore, the invention is not directed to the technological arts."<sup>v</sup> The Board of Patent Appeals and Interferences affirmed, concluding that the application involved only mental steps that do not transform physical matter and was directed to an abstract idea.<sup>vi</sup> The US Court of Appeals for the Federal Circuit heard the case *en banc* and on October 30, 2008, affirmed under a "machine-or-transformation test."<sup>vii</sup> In so holding, the Federal Circuit rejected its prior test for determining patentability—whether it produces a "useful, concrete, and tangible result;"—concluding that the "machine-or-transformation test" is "the sole test governing §101 analyses," and thus the "test for determining patent eligibility of a process under §101."<sup>viii</sup> Bilski and Warsaw petitioned the US Supreme Court for a writ of certiorari. On June 1, 2009, the Supreme Court granted certiorari.<sup>ix</sup>

The case attracted wide-spread attention because of the implications the decision could have on business patents already issued, and the patentability of computer software and medical diagnostic therapeutic innovation.

On June 28, 2010, the Supreme Court affirmed the judgment of the Federal Circuit in rejecting the Bilski patent claims but under the Court's precedents on the unpatentability of abstract ideas and not on the machine-or-transformation test adopted by the Federal Circuit. Justice Kennedy delivered the opinion of the Court and Chief Justice Roberts and Justices Thomas and Alito joined the opinion in full. Justice Scalia joined except for Parts II–B–2 and II–C–2. Retiring Justice Stevens filed an opinion concurring in the judgment, in which Justices Ginsburg, Breyer, and Sotomayer joined. Justice Breyer filed an opinion concurring in the judgment and providing further observations, in which Justice Scalia joined as to Part II.

## The Supreme Court Decision

The starting point for the Court's analysis of what subject matter is patentable is Title 35 U.S.C. §101 which provides for the issuance of a patent to a person who invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof."<sup>x</sup> Despite the apparent sweep of Section 101, the Court pointed to three categories of subject matter that are not entitled to patent protection: "laws of nature, physical phenomena, and abstract ideas."<sup>xi</sup>

The Bilski application involved an invention claimed to be a "process" under Section 101, which is defined under Section 100(b) to be a "process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."<sup>xii</sup> The Court found no reason for interpreting the term "process" other than as taking its ordinary, contemporary, common meaning.<sup>xiii</sup> *The Court found the Federal Circuit's tying of the term "process" to "a machine or transformation of an article" as the sole test for what constitutes a "process" to violate the ordinary, contemporary, common meaning of the term "process."* (emphasis added)<sup>xiv</sup> The Court stated that the Court's precedents establish that the machine-or-transformation test, while "a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under Section 101," is not the sole test for making that

determination.<sup>xv</sup> In deciding whether previously unforeseen inventions qualify as patentable “processes,” the Court even posited that “it may not make sense to require courts to confine themselves to asking the questions posed by the machine-or-transformation test”.<sup>xvi</sup>

Turning to the question of the patentability of business methods, the Court explained that the term “method” as found in the definition of a “process” under Section 100(b) may include “at least some methods of doing business.”<sup>xvii</sup> Hence, Section 101 precludes the broad contention that the term “process” categorically excludes business methods.<sup>xviii</sup> In addition, 35 U.S.C. § 273(b)(1) provides that if a patent holder claims infringement based on “a method in [a] patent,” the alleged infringer can assert a defense of prior use,<sup>xix</sup> a legislation predicated on the existence of business methods. A conclusion that business method patents are not patentable in any circumstances would render Section 273 meaningless.<sup>xx</sup>

As a business method, the *Bilski* application is not categorically outside of Section 101 the Court stated. Rather than resolve *Bilski* by adopting a categorical rule that might have wide-ranging and unforeseen impacts, the Court resolved *Bilski* on the basis of the Court’s decisions in *Benson*, *Flook*, and *Diehr*.<sup>xxi</sup> As stated by the Court “[i]ndeed, all members of the Court agree that the patent application at issue here falls outside of § 101 because it claims an abstract idea.”<sup>xxii</sup>

The Court rejected the *Bilski* application under its precedents on the unpatentability of abstract ideas providing little further guidance on what constitutes a patentable “process” other than “pointing to the definition of that term provided in Section 100(b) and looking to the guideposts in *Benson*, *Flook*, and *Diehr*.”<sup>xxiii</sup>

Finally, the Court stated that nothing in today’s opinion should be read as endorsing interpretations of Section 101 that the Court of Appeals for the Federal Circuit has used in the past.<sup>xxiv</sup>

## Concurring Opinions of Justices Stevens and Breyer

The Court was unanimous in affirming the judgment of the Federal Circuit in rejecting the *Bilski* patent claims and finding that the machine-or-transformation test is not the exclusive test for what constitutes a patentable “process” under 35 U.S.C. § 101. Otherwise, the Court was split on the rationale in support of that judgment, with the majority making broad statements about how to define the term “process” in Section 101 and tinkering with the bounds of the category of unpatentable, abstract ideas while the minority “restoring patent law to its historical and constitutional moorings”<sup>xxv</sup> to conclude that a method of doing a business is not, in itself, covered by the statute—“a method of doing business is not a ‘process’ under Section 101.”<sup>xxvi</sup>

Justice Scalia refrained from joining the majority on Parts II–B–2 and II–C–2; joining instead part II of an opinion by Justice Breyer.<sup>xxvii</sup> In Part II-B-2 of the majority the Court, among other things, posited that in deciding whether previously unforeseen inventions qualify as patentable “processes,” “it may not make sense to require courts to confine themselves to asking the questions posed by the machine-or-transformation test.”<sup>xxviii</sup> In Part II-C-2 of the majority the Court, among other things, spoke to the need to set a high enough bar to keep patent examiners and courts from being flooded with claims flowing from an Information Age that empowers people with new capacities to perform statistical analyses and mathematical calculations with a speed and sophistication that enable the design of protocols for more efficient performance of a vast number of business tasks.<sup>xxix</sup> In Part II of his concurring opinion, Justice Breyer explained, among other things, that “in reemphasizing that the machine-or-transformation test is not necessarily the sole test of patentability, the Court intends neither to de-emphasize the test’s usefulness nor to suggest that many patentable processes lie beyond its reach”.<sup>xxx</sup>

Justice Scalia's split concurrence may be a reflection of a shift in the jurisprudence of the Court during deliberations in deciding this case wherein perhaps the majority initially resided under the stewardship of Justice Stevens only to be lost to Justice Kennedy somewhere along the process. This also may explain the length of time it took for the Court to render its decision after hearing oral arguments; a period of time that counts among the longest in the recent history of deciding patent cases.

The joining of Justice Scalia in Justice Breyer's concurring opinion may portend that the line in the sand has not yet been so clearly drawn at least with respect to the patentability of software and medical diagnostic patents suggesting that business method patents generally may continue to be more strictly construed as the concurring opinions would have it.

## Definition of Section 101 and *Benson, Flook, and Diehr* Precedent Provide Section 101 Process Patentability Guidance

The Court rejected the *Bilski* application under its precedents on the unpatentability of abstract ideas providing little further guidance on what constitutes a patentable "process" other than "pointing to the definition of that term provided in Section 100(b) and looking to the guideposts in *Benson, Flook, and Diehr*."<sup>xxxix</sup>

So what are the guidelines provided by this trilogy of Supreme Court decisions?

In *Benson*, the Court considered whether a patent application for an algorithm to convert binary-coded decimal numerals into pure binary code was a "process" under Section 101. Claim 13 of *Benson* is illustrative:

A data processing method for converting binary coded decimal number representations into binary number representations, comprising the steps of

- (1) testing each binary digit position '1,' beginning with the least significant binary digit position, of the most significant decimal digit representation for a binary '0' or a binary '1';
- (2) if a binary '0' is detected, repeating step (1) for the next least significant binary digit position of said most significant decimal digit representation;
- (3) if a binary '1' is detected, adding a binary '1' at the (i+1)th and (i+3)th least significant binary digit positions of the next lesser significant decimal digit representation, and repeating step (1) for the next least significant binary digit position of said most significant decimal digit representation;
- (4) upon exhausting the binary digit positions of said most significant decimal digit representation, repeating steps (1) through (3) for the next lesser significant decimal digit representation as modified by the previous execution of steps (1) through (3); and
- (5) repeating steps (1) through (4) until the second least significant decimal digit representation has been so processed.

The claims were not limited to any particular art or technology, to any particular apparatus or machinery, or to any particular end use. They purported to cover any use of the claimed method in a general purpose digital computer of any type.<sup>xxxix</sup> The Court held that the application at issue was not a

“process” but an unpatentable abstract idea.<sup>xxxiii</sup>

Here the “process” claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure binary conversion. The end use may (1) vary from the operation of a train to verification of drivers’ licenses to researching the law books for precedents and (2) be performed through any existing machinery or future-devised machinery or without any apparatus. In 56 U.S. 111[. But] the Court denied the eighth claim in which Morse claimed the use of “electro magnetism, however developed for marking or printing intelligible characters, signs, or letters, at any distances.” *Id.* at 56 U.S. 112.<sup>xxxiv</sup>

As the Court later explained a contrary holding “would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.”<sup>xxxv</sup>

Unlike the algorithm in *Benson*, the mathematical formula used for monitoring conditions during the catalytic conversion process in the petrochemical and oil-refining industries in *Flook* was limited so that it could still be freely used outside the petrochemical and oil-refining industries.<sup>xxxvi</sup> Claim 1 of *Flook* is illustrative:

1. A method for updating the value of at least one alarm limit on at least one process variable involved in a process comprising the catalytic chemical conversion of hydrocarbons wherein said alarm limit has a current value of “Bo + K” “wherein Bo is the current alarm base and K is a predetermined alarm offset which comprises:
  - i. Determining the present value of said process variable, said present value being defined as PVL;
  - ii. Determining a new alarm base B1, using the following equation: “ $B1=Bo(1.0-F) + PVL(F)$ ” where F is a predetermined number greater than zero and less than 1.0;
  - iii. Determining an updated alarm limit which is defined as  $B1 + K$ ; and thereafter
  - iv. Adjusting said alarm limit to said updated alarm limit value.

Nevertheless, the *Flook* Court rejected “[t]he notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process.”<sup>xxxvii</sup> As the Court later stated in *Diehr*, *Flook* stands for the proposition that the prohibition against patenting abstract ideas “cannot be circumvented by attempting to limit the use of the formula to a particular technological environment” or adding “insignificant post solution activity.”<sup>xxxviii</sup>

Finally, in *Diehr*, involving a method for molding raw, uncured synthetic rubber into cured precision products using a mathematical formula to complete several of the steps by computer, the Court explained that “while an abstract idea, law of nature, or mathematical formula could not be patented, an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”<sup>xxxix</sup>

Claim 1 is illustrative:<sup>xl</sup>

1. A method of operating a rubber-molding press for precision molded compounds with the aid of a digital computer, comprising:
  - providing said computer with a database for said press, including at least,
  - natural logarithm conversion data (ln),
  - the activation energy constant (C) unique to each batch of said compound being

- molded, and
- a constant (x) dependent upon the geometry of the particular mold of the press,
- initiating an interval timer in said computer upon the closure of the press for monitoring the elapsed time of said closure,
- constantly determining the temperature (Z) of the mold at a location closely adjacent to the mold cavity in the press during molding,
- constantly providing the computer with the temperature (Z),
- repetitively calculating in the computer, at frequent intervals during each cure, the Arrhenius equation for reaction time during the cure, which is:  $\ln v = CZ + x$ , where v is the total required cure time,
- repetitively comparing in the computer at said frequent intervals during the cure each said calculation of the total required cure time calculated with the Arrhenius equation and said elapsed time, and
- opening the press automatically when a said comparison indicates equivalence.

## The Term “Abstract Ideas” as an Exception to Section 101 Patentability Likely Includes “Formulas” and “Mental Processes”

Justice Stevens criticized the *Bilski* decision for failing to show how Bilski’s application qualifies as an abstract idea under the case law because it is not “[a] principle, in the abstract,” or a “fundamental truth” or “the sort of phenomenon of nature or abstract idea that was embodied by the mathematical formula at issue in *Benson* and *Flook*”.<sup>xli</sup> Justice Stevens was referring to the “abstract idea” category of the three categories of subject matter that the *Bilski* majority explained are not entitled to patent protection: namely, “laws of nature, physical phenomena, and abstract ideas”.<sup>xlii</sup>

The guidelines in *Benson* would appear to bridge this ostensible analytical gap in *Bilski* when it states that “mental processes” and “abstract intellectual concepts” are indeed exceptions to patent protection under Section 101: “[p]henomena of nature, though just discovered, *mental processes*, and *abstract intellectual concepts* are not patentable” under Section 101, since allowing individuals to patent these fundamental principles would “wholly pre-empt” the public’s access to the “basic tools of scientific and technological work.” (emphasis added)<sup>xliii</sup>

The Court found the Bilski application to claim an “abstract idea” because the “Petitioners seek to patent both the concept of hedging risk and the application of that concept to energy markets.”<sup>xliv</sup> It would appear to be in the recitation of a process containing nothing more than “abstract concepts”, “mental processes” and “formulas,” that the Bilski claims amount to an abstract idea contrary to the concerns voiced by Stevens.

## Section 101 “New” Does Not Equal Section 102 “Novel” and the Role of Section 101 “Useful” As a Section 101 Bar

Justice Stevens faulted the Court’s reliance on the long prevalence of hedging in commerce in construing Section 101; a provision that does not involve the issue of novelty arising under Section 102.<sup>xlv</sup> The tension between Section 101 and Sections 102/103 that may have been created by the Court’s citation to prior art to show the Bilski’s claims to be an abstract idea at the time of the Bilski decision appeared to be unfounded given the Court’s apparent appreciation of Sections 102, 103, and 112 as requirements for patentability under the patent statutes.<sup>xlvi</sup> As the Court stated “[i]n order to receive patent

protection, any claimed invention must [also] be novel, 102, nonobvious, 103, and fully and particularly described, 112.”<sup>xlvi</sup>

The question then becomes, if not for a Section 102 purpose, then for what purpose did the Court rely on the long prevalence of hedging in commerce in construing Section 101? The answer appears to lie in the meaning of the terms “new” and “useful” under Section 101.

The precedent of the Court suggests that the term “new” likely means that which is not a “manifestation[s] of . . . nature, free to all men and reserved exclusively to none.”<sup>xlvi</sup> In 1948, *Funk Brother Seed Co. v. Kalo Inoculant Co.* confronted the Section 101 question of patentability head on and held that naturally-occurring products of nature are excluded from patentable subject matter.<sup>xlix</sup> *Funk* focused on whether mixtures of certain bacteria were patentable.<sup>l</sup> In *Funk*, a patent had issued for mixed cultures of root nodule bacteria capable of inoculating the seeds of leguminous plants.<sup>li</sup> The crux of the Court’s finding was that the combining of the bacteria species did not produce new bacteria, nor did it cause a change in any of the six species of bacteria, but served more of a packaging function.<sup>lii</sup> The Court stated that:

[e]ach species has the same effect it always had. The bacteria perform in their natural way. Their use in combination does not improve in any way their natural functioning. They serve the ends nature originally provided and act quite independently of any effort of the patentee.<sup>liii</sup>

The Court further offered, in an often cited language of the case, that:

[p]atents cannot issue for the discovery of the phenomena of nature. . . . [They] are part of the storehouse of knowledge of all men. They are manifestations of laws of nature, free to all men and reserved exclusively to none.<sup>liv</sup>

The US Supreme Court precedents have clearly and consistently held that products of nature are not patentable.<sup>lv</sup>

In 1980, the US Supreme Court applied the product of nature doctrine in the area of biological organisms in *Diamond v. Chakrabarty*, holding that when an inventor introduced new genetic material within a bacterium cell, he had produced (*i.e.*, genetically engineered) something that was not a product of nature and was thus patentable subject matter under 35 U.S.C. § 101.<sup>lvi</sup> The Court clearly stated again that naturally-occurring products of nature were not patentable.<sup>lvii</sup> The Court said that the “patentee has produced a new bacterium with markedly different characteristics from any found in nature and one having the potential for significant utility. His discovery is not nature’s handiwork, but his own; accordingly it is patentable subject matter under Section 101.”<sup>lviii</sup> Specifically, the inventor had added new genetic material into the cell of a bacterium, producing something that did not occur in nature. The court further stated:

The laws of nature, physical phenomena, and abstract ideas have been held not patentable. . . . Thus, a new mineral discovered in the earth or a new plant found in the wild is not patentable subject matter. Likewise, Einstein could not patent his celebrated law that  $E=mc^2$ ; nor could Newton have patented the law of gravity. Such discoveries are ‘manifestations of . . . nature, free to all men and reserved exclusively to none.’<sup>lix</sup>

Under this precedent of the Court, the term “new” as used in Section 101 would likely require subject matter to be *not* a “manifestation of nature—whether that natural existence is known to man or later

discovered.” When applied to the three categories of subject matter that the *Bilski* majority explained are not entitled to patent protection: namely, “laws of nature, physical phenomena, and abstract ideas”, it seems that subject matter falling under either the “law of nature or physical phenomena” exceptions to patentability would *never* be “new” in the Section 101 sense of the word because laws of nature and physical phenomena appear to be manifestations of nature. On the other hand, whether an *abstract idea* is a manifestation of nature or a man-made creation would appear to turn on the subject matter of the abstract idea itself.<sup>lx</sup> If an “abstract idea” that is a “formula,” for example, is an expression of a law of nature or physical phenomenon such as Einstein’s theory of relativity, then as a manifestation of nature, such formula would never be patentable as they are not “new” in the Section 101 sense of the word. Nature defines those laws even though man puts those laws into an expression. On the other hand, a formula that is not a manifestation of nature could in fact be “new” in the Section 101 sense of the word. Yet those formulae under the teachings of *Bilski* would still fail to be patentable under Section 101. If failure in that event is not because the formula was not “new”, then nonpatentability of the formula must result from the failure of the formula to satisfy the “useful” prong of the Section 101 requirement for patentability. The same can be said for a mental process. A mental process that is a manifestation of nature is not “new” in the Section 101 sense of the word. But a mental process that is not a manifestation of nature and so is “new” in the 101 sense of the word still fails Section 101 under *Bilski* so that the failure must occur because the mental process is not “useful.”

In *Bilski* it cannot be said that the process of hedging is a manifestation of nature because hedging would seem to be a man-made contrivance and so the *Bilski* claims would likely be “new” in the Section 101 sense of the word. So the failure of the *Bilski* claims likely turns on the failure of the *Bilski* formula/mental processes to satisfy the “useful” prong of the “new and useful” test for subject matter patentability under Section 101. The precedent of the Court would appear to support such an analysis.

It is hornbook law that the Constitution is the supreme law of the land and so any law passed by Congress pursuant to this Constitutional power necessarily limits the patent to the promotion of “the progress of science and useful arts.”<sup>lxi</sup> Under the US Constitution Congress is empowered 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.”<sup>lxii</sup> Pursuant to this Constitutional power, Congress has passed a series of patent laws over the years that grant certain exclusive rights over certain inventions and discoveries as a means of encouraging innovation. All of these Congressional laws are limited by the Constitution and the Supreme Court has spoken on this subject on numerous occasions including in *Graham*,<sup>lxiii</sup> in which the Court explored Congress’ power and limitations under the Clause in the context of patent infringement.<sup>lxiv</sup> *Graham* analyzed the limitation in the Progress Clause in the following words:

The clause is both a grant of power and a limitation. This qualified authority, unlike the power often exercised in the sixteenth and seventeenth centuries by the English Crown, is limited to the promotion of advances in the “useful arts.” It was written against the backdrop of the practices [...] of the Crown in granting monopolies to court favorites in goods or businesses which had long before been enjoyed by the public. [...] The Congress in the exercise of the patent power may not overreach the restraints imposed by the stated constitutional purpose. Nor may it enlarge the patent monopoly without regard to the innovation, advancement or social benefit gained thereby.<sup>lxv</sup>

It is in the “promotion of advances in the useful arts” where support may be found for the term “useful” under Section 101. As the Supreme Court has explained “[t]he patent system represents a carefully crafted bargain that encourages both the creation and the public disclosure of *new and useful*



*advances in technology*, in return for an exclusive monopoly for a limited period of time.”<sup>lxvi</sup> Federal Circuit precedent has followed these guidelines that patentable processes reside “in the technological arts so as to be in consonance with the Constitutional purpose to promote the progress of ‘useful arts.’”<sup>lxvii</sup> The dissent of Judge Mayer in the Federal Circuit decision in *Bilski* explains that “business method patents do not promote the “useful arts” because they are not directed to any technological or scientific innovation.”<sup>lxviii</sup>

If “an abstract idea or mental process” that is “new” in the Section 101 sense since it is not a manifestation of nature nonetheless still fails Section 101 then it must fail because it is not “useful” or as precedent suggests it is not an “innovation that promotes the advancement in the useful arts.” The *Bilski* claims likely failed not because they were not “new” in the Section 101 sense; rather because as abstract concepts, mental processes and formulae they did not promote the advancement of the useful arts and hence failed the “useful” prong of the Section 101 “new and useful” test for determining the patentability of subject matter.

Through this prism of understanding, the reliance by the Court on the long prevalence of hedging in commerce in construing Section 101 may become clearer. The probative value of “hedging” may lie in it being an abstract concept, mental process and formula that does not promote the advancement of the useful arts and hence fails the “useful” prong of the Section 101 “new and useful” test for determining the patentability of subject matter. Under this view, the operative word is “hedging” and not “long prevalence,” which serves only to describe the operation temporally. If, however, the operative word is “long prevalence,” then under the alternative view that any pure mental process is manifested entirely within the brain and so is a creation of nature and hence is never “new” in the Section 101 sense of the word *per se* (no one is actually making or building anything—it is only going on inside one’s head)<sup>lxix</sup>, the term “long prevalence” may show “hedging” to be an abstract idea that has been going on in people’s heads for a long time.

Under the former view, only abstract ideas that are “new” in the Section 101 sense of the word could ever be candidates for Sections 102/103 analysis. But those abstract ideas, like the abstract idea of *Bilski*, would never advance to a Section 102/103 analysis because even though being “new” in the Section 101 sense of the word, they are not “useful” and so fail the “useful” prong of the “new and useful” requirement for patentable subject matter. Under the latter view that any pure mental process is manifested entirely within the brain, all abstract ideas would fail Section 101 because they are not “new” in the Section 101 sense of the word and so all abstract ideas would never advance to a Sections 102/103 analysis for that reason.

The separateness of Section 101 from Sections 102/103 is perhaps best seen under the former view but with a different kind of abstract idea. In this example, instead of being an abstract idea such as “hedging,” which has been in “long prevalence,” the abstract idea is one that has never before been expressed by man. In this example, if the abstract idea could pass beyond Section 101 to a Sections 102/103 analysis (which it can’t under the *Bilski* analysis), the abstract idea may very well pass the Sections 102/103 test because in this example the abstract idea had never before been expressed by man. But the Section 101 gate of patentability would never let this or any other abstract idea advance to that Sections 102/103 analysis because an abstract idea albeit “new” does not promote the advancement of the useful arts and hence fails the “useful” prong of the Section 101 “new and useful” test for determining the patentability of subject matter. The separateness of Section 101 from Sections 102/103 is not so transparent in the latter view which assumes that all abstract ideas are never “new” in the Section 101 sense of the word because they are manifested entirely within the brain.

The tension that *Bilski* may have introduced between Section 101 and Sections 102/103 when the Court cited to prior art to show that *Bilski*’s claims were an abstract idea is likely defused when viewing the abstract idea of *Bilski* as perhaps failing the “useful” prong of the Section 101 “new and useful”

standard as opposed to DNA sequences, for instance, which are more likely to be strictly scrutinized with respect to the “new” prong of the Section 101 “new and useful” standard.

## Recent Supreme Court’s *Prometheus* Decision Casts New Doubts On The Appreciation of the Difference Between “New” and “Useful” Under Section 101 and Section 102 “Novel”, Section 103 “Obviousness”, and Section 112

On March 20, 2012, in the much anticipated diagnostic method patent claims case of *Mayo v. Prometheus*, the Supreme Court struck down diagnostic method claims as unpatentable subject matter under 35 U.S.C. 101. The claims recited a “correlation” between metabolite levels and likely harm or ineffectiveness of thiopurine drugs to treat autoimmune diseases. The claims also required an (1) an “administering” step—administering a drug to a subject; (2) a “determining” step—determining the level of 6-thioguanine in the subject ; and (3) a “wherein” step—describing the need to increase or decrease the amount of the drug based upon the level of the 6-thioguanine concentrations in the blood.

That the Court found the “correlation” step to be a law of nature is not surprising. On the other hand, the Court’s analysis involving the remaining steps of the diagnostic method patent claims, which applied this law of nature, is not only surprising but may arguably have turned the law of 35 U.S. C. 101 subject matter patentability on its head. The Court held that the remaining recited elements of “determining,” and “administering,” and the “wherein” recitation are “well known in the art” and so added nothing to the claims for purposes of subject matter patentability.<sup>lxx</sup> Thus, the Court held that the claims preempt the law of nature “correlation” and so are unpatentable subject matter. *Id.*

It is hornbook patent law that questions of fact are questions for the jury to decide. By deciding *Prometheus* on the basis that the recited elements that are applying the “correlation” are “well known in the art,” the Court in effect has introduced a question of fact into the 35 U.S.C. 101 analysis. In addition, the Court has left it to the courts to decide this question of fact; thereby empowering the courts to decide questions which are typically the province of the jury to decide. On both counts, the Court’s precedent in *Prometheus* flies in the face of hornbook patent law on 35 U.S.C. 101, which is historically decided as a question of law.

The *Prometheus* decision may have been a knee-jerk reaction by the Court to the perceived wrong of upholding diagnostic method patent claims that are “well known in the art,” and the analysis by the Court may have been the best way the Court could think of to strike down those claims and right that wrong. Yet the 35 U.S.C. 101 question of the subject matter patentability of the claims arguably could have been limited to an analysis focusing on whether the claims recite any man made application of — in this case, of a law a nature — under the sun that is not an insignificant extra-solution activity; even if the man-made application is “well known in the art.”

Those *Prometheus* claims could arguably have been invalidated in a later proceeding by the lower court with the jury deciding whether the claims are “well known,” that is, anticipated or obvious, under 35 U.S. C. 102, 103. In bringing the “well known in the art” question into the 101 analysis, the Court has blurred the distinction *between* “new” and “useful” under Section 101 *and* Section 102 “novel”, section 103 “obviousness,” and section 112; casting new doubts on the appreciation of the Court between Section 101 and Sections 102, 103, and 112 of the patent statute.

## The Lower Court Response - Software Decisions Post-*Bilski*

### *Research Corp. Tech. v. Microsoft Corp.*: Invention Provides “Functional and Palpable” Applications

On December 8, 2111, the Federal Circuit decided *Research Corp. Tech. v. Microsoft Corp.*,<sup>lxxi</sup> a software patent case. Before the Federal Circuit in *Research Corp.* were software claims directed to “image halftoning technology used in computers and printers.

Claim 11 is particularly interesting since it recited no physical structure. Claim 11 recites (emphasis **added**):

A method for the halftoning of color images which comprises

the step of utilizing, in turn, a pixel-by-pixel comparison of each of a plurality of color **planes of said color image against a respective one of a plurality of masks** in which **each respective mask comprises** a nondeterministic, non-white noise single valued function which is designed to provide visually pleasing dot profiles when thresholded and wherein said step of utilizing said pixel-by-pixel comparison is used to produce a halftoned image.

The lower court found the claims at issue that recite “*the production of an image as a result of the comparison numbers*” to be transformative.<sup>lxxii</sup> (emphasis added) However, the claims at issue that merely “assembl[ed] ... gray scale images to generate final dot profiles” were not transformative because they did not “*mandate a further visual display or image...*”<sup>lxxiii</sup> (emphasis added)

On appeal, the Federal Circuit upheld the patentability of the claims that merely “assembl[ed] ... gray scale images to generate final dot profiles” but that were not transformative because they did not “mandate a further visual display or image”; *but* under arguably yet a new standard for determining the eligibility of a software process for a patent – to wit, a “functional and palpable applications” test.<sup>lxxiv</sup> As the court explained “[t]he invention presents *functional and palpable applications* in the field of computer technology”, because the inventions address a need for halftone rendering of gray scale images in a simple and precise manner to accomplish the halftone rendering.<sup>lxxv</sup> (emphasis added)

The court’s holding of the *Research Corp.* claims to be patentable subject matter appears to be faithful to the Supreme Court’s concern that a claim not preempt a fundamental principle. However, a “functional and palpable” standard in defining whether a claim preempts a fundamental idea (“palpable” is defined by Merriam-Webster dictionary to mean “capable of being touched or felt”) provides little guidance on determining the preemption issue and is reminiscent of the phrase made famous by Justice Potter Stewart in the obscenity case of *Jacobellis v. Ohio*<sup>lxxvi</sup> that “I know it when I see it”. Just as it took years for the Supreme Court to evolve meaningful guidance on what amounts to obscenity as clarified in *Miller v. California*<sup>lxxvii</sup>, so too it may take more time for the Federal Circuit to evolve more meaningful guidance on what software subject matter is patent eligible.

## *H&R Block Tax Services v. Jackson Hewitt Tax Service:* Invention Contains Meaningful Limits

In *H&R Block*<sup>lxxviii</sup>, on February 2, 2011, a magistrate's report and recommendations in the District Court for the E.D. Texas applied a "meaningful limits" test in recommending that patents on a tax refund idea are patentable where the cash tax refund is exchanged for immediate cash by use of a security instrument recited in the claims as "a spending vehicle". The court explained that the limitation of the abstract idea to for use with a "spending vehicle" is an "[a]lternative to cash payments," thereby limiting the applicability of the '862 patent to the use of non-cash collateralized loans in the field of assignable government payments in exchange for something of value".<sup>lxxix</sup> Magistrate Judge Love issued his report and recommendations that Jackson Hewitt's motion for summary judgment of invalidity of all asserted claims under 35 U.S.C. 101 be granted as to U.S. 7,127,425 but denied as to U.S. Nos. 7,072,862 and 7,177,829.

A representative method claim that the Magistrate recommended upholding in the '829 patent is a method and provides (**emphasis added**):

A method of providing at least a portion of an income tax refund amount to a taxpayer through a spending vehicle, comprising:

arranging, among an electronic tax preparation system and a **third party spending vehicle** provider, **to offer at least one spending vehicle** to said taxpayer, said spending vehicle redeemable only at a retailer designated by the arrangement;

preparing a **tax return** by or for said taxpayer using said electronic tax preparation system;

obtaining tax return data from said electronic tax preparation system, said tax return data comprising an anticipated income tax refund amount from said taxing authority payable to said taxpayer;

selecting by said taxpayer said at least one spending vehicle from a plurality of spending vehicles offered by said third party spending vehicle provider;

executing at the time of preparation of said tax return using said electronic tax preparation system **an agreement** related to said spending vehicle in which said taxpayer agrees to assign at least a portion of said income tax refund amount to said third party spending vehicle provider and said third party spending vehicle provider agrees to accept said assignment and provide said selected spending vehicle to said taxpayer and to accept an associated risk for non-payment of said portion of said income tax refund, wherein said agreement does not involve issuing a loan or credit to said taxpayer and wherein said taxpayer and said spending vehicle provider obligations occur upon submission of said tax return to said taxing authority;

transferring electronically said at least a portion of said income tax refund amount to an account for said third party spending vehicle provider; and

issuing said selected spending vehicle to said taxpayer, said selected spending vehicle having a prepaid value greater than said assigned at least a portion of said tax refund and said taxpayer redeems said selected spending vehicle at said designated retailer to purchase products or services.

A representative method claim recommended be invalidated by the Magistrate is Claim 17 of the '425 patent which provides (**emphasis added**):

**A computer-implemented method** for providing a loan to a taxpayer prior to the end of the current

tax year, said method comprising:

**determining an income tax refund amount** for at least one tax year prior to the current tax year;

**estimating at a computer said taxpayer's income tax refund amount due** for said current year prior to the end of said current tax year based on said income tax refund amount;

providing a loan to said taxpayer prior to the end of the current tax year in amount based on said estimated income tax refund amount due for said current tax year for said taxpayer as determined by said computer;

**assigning said taxpayer's income tax refund to said lender;**

**preparing** a tax return for said taxpayer using actual data after the end of the current tax year;

**filing** said tax return with a taxing authority;

**receiving** said taxpayer's income tax refund from said taxing authority; and

**applying** said taxpayer's income tax refund to said loan based on said estimated income tax refund.

Interestingly, claims in *H&R Block* that were recited as “system” claims did not escape the scrutiny of the Magistrate under *Bilski* or alter the conclusions of the court that the “system” limitations were deemed to be inadequate ties to a particular machine. While arguably a 35 U.S.C. §101 “machine” and not a “process” on which *Bilski* was decided, the Magistrate effectively deemed the claim to be a claim on a process and the recited system an insignificant post-solution activity. (“[t]o hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection”<sup>lxxx</sup>).

A representative claim that the Magistrate recommended upholding in the ‘862 is the following independent system claim which provides (**emphasis added**):

A computerized system for distributing spending vehicles comprising:

**a payment due** from a governmental entity;

**an assignable right** to receive said payment from said governmental entity, said assignable right held by an individual;

**a spending vehicle** offered by a third party sponsor to said individual in exchange for at least a portion of said individual's right to receive said payment due;

**an assignment of at least a portion of said individual's right to receive said payment to said third party sponsor in exchange for said spending vehicle;**

wherein **information associating said payment with said spending vehicle from said third party sponsor is stored in and retrieved from a computer to facilitate processing of said spending vehicle** and said **spending vehicle is issued to said individual** in an amount for spending by said individual of said at least a portion of said payment,

said **governmental entity is electronically notified to transfer** said at least a portion of said payment to said third party sponsor, and said at least a portion of said payment is received by said third party sponsor.

In an earlier decision rendered before the Supreme Court decided *Bilski*, the court had also recommended holding the '862 patent invalid but reversed these earlier recommendations in light of *Bilski*.

An illustrative system claim of the 425 patent that the Magistrate recommended be invalidated under *Bilski* is (**emphasis added**):

A computerized system for providing a loan to a taxpayer prior to the end of the current tax year, comprising:

historical income tax refund **data** comprising income tax refund amount data for at least one year prior to the current year and **in a computer**;

year-to-date income **data** for the current year, for said taxpayer, wherein said date is prior to the end of the current tax year and said year-to-date income data is in said computer;

year-to-date expense **data** for the current year, for said taxpayer, wherein said date is prior to the end of the current tax year and said year-to-date expense data is in said computer;

**a process in said computer to determine** prior to the end of the current tax year **an estimated income tax refund amount** for said taxpayer for said current tax year using said historical income tax refund data, said year-to date expense data for a date prior to the end of the current tax year;

**a loan provided to said taxpayer** prior to the end of said current tax year in an amount **based on said estimated income tax refund amount** for said current tax year for said taxpayer as determined by said computer;

and **an income tax refund** for said current tax year, wherein said income tax refund is based on a tax return prepared using actual income and expense data and filed after said current tax year for said taxpayer and is **applied to the balance of said loan** based on said estimated income tax refund.

## *Bancorp v. Sun Life*: Invention Lacks a Practical Application

In *Bancorp v Sun Life*<sup>lxxxii</sup>, decided on summary judgment motion on February 14, 2011, the District Court for the E.D. Missouri arguably applied a “practical application” test to invalidate patent claims for a computerized system for tracking insurance policies. The court explained that: “[f]actors that weigh in favor of patent-eligibility satisfy the criteria of the machine-or-transformation test or provide evidence that the abstract idea has been practically applied. Factors that weigh against patent eligibility neither satisfy the criteria of the machine-or-transformation test nor provide evidence that the abstract idea has been practically applied.”<sup>lxxxiii</sup>

Bancorp had asserted that Sun Life infringes claims of the '792 and '037 patents. The following is claim 9 of the '792 patent which the court invalidated as lacking practical application (**emphasis added**):

A method for managing a life insurance policy on behalf of a policy holder, the method comprising the steps of:

**generating a life insurance policy** including a stable value protected investment with an initial value based on a value of underlying securities;

**calculating fee units for members of a management group** which manage the life insurance policy;

**calculating surrender value** protected investment credits for the life insurance policy;

**determining an investment value and a value of the underlying securities** for the current day;

**calculating a policy value and a policy unit value** for the current day;

**storing the policy unit value for the current day**; and one of the steps of:

**removing the fee units for the members of the management group which manage the life insurance policy**, and

**accumulating fee units on behalf of the management group.**

The following is claim 1 of the '037 patent which the court invalidated as lacking practical application (**emphasis added**):

A life insurance policy management system comprising:

**a policy generator** for generating a life insurance policy including a stable value protected investment with an initial value based on a value of underlying securities of the stable value protected investment;

**a fee calculator** for calculating fees for members of a management group which manage the life insurance policy;

**a credit calculator** for calculating credits for the stable value protected investment of the life insurance policy;

**an investment calculator** for determining an investment value and a value of the underlying securities of the stable value protected investment for the current day;

**a policy calculator** for calculating a policy value and a policy unit value for the current day;

**digital storage** for storing the policy unit value for the current day; and

**a debitor** for removing a value of the fees for members of the management group which manages the life insurance policy.

Bancorp has appealed the decision to the Federal Circuit and oral arguments have been scheduled for June 7, 2012.

## ***Cybersource*: Software Subject Matter Patentability Turns on Question “Can It Be Performed in the Human Mind, or By a Human Using a Pen and Paper?”**

On August 16, 2011, the Federal Circuit rendered its decision in *Cybersource v. Retail Decisions*<sup>lxxxiii</sup> which provides needed guidance on how to determine whether claims are subject matter patentable under 35 U.S.C. 101. In *Cybersource*, the Federal Circuit was asked to decide whether a method and a Beauregard claim directed to detecting credit card fraud which utilizes information relating credit card transactions to particular “Internet addresses” was subject matter patentable. In a unanimous decision, the Court affirmed the lower court in finding claims 2 and 3 of the 6,029,154 patent invalid under 35 USC 101 for failing to recite patent-eligible subject matter.

Claim 3, as amended during reexamination, reads (**emphasis added**):

3. A method for verifying the validity of a credit card transaction over the Internet comprising the steps of:

- a) **obtaining information about other transactions** that have utilized an Internet address that is identified with the [ ] credit card transaction;
- b) **constructing a map of credit card numbers** based upon the other transactions and;
- c) **utilizing the map of credit card numbers to determine if the credit card transaction is valid.**

Claim 2, as amended during reexamination, reads (**emphasis added**):

2. **A computer readable medium** containing program instructions for detecting fraud in a credit card transaction between a consumer and a merchant over the Internet, wherein execution of the program instructions by one or more processors of a computer system causes the one or more processors to carry out the steps of:

- a) **obtaining credit card information** relating to the transactions from the consumer; and
- b) **verifying the credit card information** based upon values of plurality of parameters, in combination with information that identifies the consumer, and that may provide an indication whether the credit card transaction is fraudulent,

wherein **each value among the plurality of parameters is weighted** in the verifying step according to an importance, as determined by the merchant, of that value to the credit card transaction, so as to provide the merchant with a quantifiable indication of whether the credit card transaction is fraudulent,



wherein **execution of the program instructions** by one or more processors of a computer system causes that one or more processors to carry out the further steps of;

[a] **obtaining information about other transactions** that have utilized an Internet address that is identified with the credit card transaction;

[b] **constructing a map of credit card numbers** based upon the other trans-actions; and

[c] **utilizing the map of credit card numbers to determine if the credit card transaction is valid.**

Claim 3 recited an “obtaining information” step, a “constructing a map” based on the information, and a “utilizing the map” for fraud detection purposes. The court agreed with the lower court that the method of claim 3 simply requires one to “obtain and compare intangible data pertinent to business risks.”<sup>lxxxiv</sup> The court found the claim to fail the MOT test because “[t]he mere collection and organization of data regarding credit card numbers and Internet addresses is insufficient to meet the transformation prong of the test, and the plain language of claim 3 does not require the method to be performed by a particular machine, or even a machine at all.”<sup>lxxxv</sup> The recitation “over the Internet” was not a tie to a particular machine, the court explained, because the “internet cannot perform the fraud detection steps of the claimed method” and the “Internet is merely described as the source of the data.”<sup>lxxxvi</sup>

Following this unremarkable machine-or-transformation test analysis, the *Cybersource* court went on to analyze the claims in what may be the real take-away from this decision – namely, an analysis of claims for subject matter patentability using the model provided by the *Bilski* Supreme Court. That model involves defining the patentability boundary line for these claims beyond which claims of this type preempt a fundamental principle and within which these claims may be patentable subject matter. The court defined that boundary line with these claims by the question “Can it be performed in the human mind, or by a human using a pen and paper?”

In holding claim 3 to fall outside the patentability boundary line and so to preempt an abstract idea, the court explained that “[a]ll of claim 3’s method steps can be performed in the human mind, or by a human using a pen and paper. Claim 3 does not limit its scope to any particular fraud detection algorithm, and no algorithms are disclosed in the ’154 patent’s specification. Rather, the broad scope of claim 3 extends to essentially any method of detecting credit card fraud based on information relating past transactions to a particular “Internet address,” even methods that can be performed in the human mind. Specifically, the court found that the step of “obtaining information about other transactions that have utilized an Internet address that is identified with the “credit card transaction”—can be performed by a human who<sup>lxxxvii</sup> more simply reads records of Internet credit card transactions from a preexisting database.<sup>lxxxviii</sup> In addition, “even if some physical steps are required to obtain information from the database (e.g., entering a query via a keyboard, clicking a mouse), such data-gathering steps cannot alone confer patentability. *Grams*, 888 F.2d at 839–40.”<sup>lxxxix</sup>

The court found the step of “constructing a map of credit card numbers” to be satisfied by writing down a list of credit card transactions made from a particular IP address. *Id.* “There is no language in claim 3 or in the ’154 patent’s specification that requires the constructed “map” to consist of anything more than a list of a few credit card transactions.”<sup>xc</sup>

Finally, the court found the step of “utilizing the map of credit card numbers to determine if the credit card transaction is valid” to be so broadly worded that it encompasses “literally any method for

detecting fraud based on the gathered transaction and Internet address data . . . necessarily include[ing] even logical reasoning that can be performed entirely in the human mind.”<sup>xcxi</sup> Even an eyeball comparison of the numerous transactions using different credit cards, having different user names and billing addresses, all originated from the same IP address, the court explained.<sup>xcii</sup> Hence, the method of claim 3 can be performed by human thought alone and so is merely an abstract idea and is not patent-eligible under § 101, the court held.<sup>xciii</sup>

In holding the Beauregard claim 2 to be unpatentable, the court explained that the claim recites nothing more than a computer readable medium containing program instructions for executing the method of claim 3.<sup>xciv</sup> The method underlying claim 2 being clearly the same method of fraud detection recited in claim 3, the court held claim 2 to be likewise invalid as unpatentable subject matter.

The court was unpersuaded by the argument that the Beauregard claim was a 35 U.S.C. §101 “machine” and not a “process” on which *Bilski* was decided. The court deemed the Beauregard claim ultimately to be a claim on a process and the recited computer readable medium an insignificant post-solution activity.<sup>xcv</sup> “Here, the incidental use of a computer to perform the mental process of claim 3 does not impose a sufficiently meaningful limit on the claim’s scope.”<sup>xcvi</sup> In so holding, the court appears to be heeding the *Bilski* Supreme Court caveat that “[t]o hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection”.

The Federal Circuit seems intent on adhering to its “functional and palpable test”, a test that was articulated in *Research Tech* for use in determining subject matter patentability questions. The Court in *Classen*<sup>xcvii</sup> made this crystal clear when it stated that “[i]f the specified method is “functional and palpable, the claims are drawn to statutory subject matter.”<sup>xcviii</sup> But by deciding the software claims based on whether the steps of the software can be performed in the human mind, or by a human using a pen and paper and not on whether the software method was “functional and palpable”, the *Cybersource* Court may be indicating its own concern about the subjectivity of the “functional and palpable test” for use as a yardstick for measuring subject matter patentability questions. By analyzing these software claims in this way, *Cybersource* may be signaling the morphing of the very subjective “functional and palpable test” into the arguably more objective standard of “can it be performed in the human mind, or by a human using a pen and paper test”.

The new test articulated by *Cybersource* has advanced the evolution of the very subjective “functional and palpable test” articulated by the court in *Research Tech* into a test that arguably can be more objectively applied. But how objective is that new test really? *Cybersource* still begs the question of just how many calculations must the claim perform before it is deemed to contain patentable subject matter because it cannot be “performed in the human mind, or by a human using a pen and paper”. Thus, *Cybersource* is likely to go down as an important next step in the evolution of jurisprudence in this area toward a test that can be more objectively applied and lead to more consistent results.

## ***Ultramercial*: Internet Advertising Software Found Patentable Under “Complex Programming” Test**

On September 15, 2011, the Federal Circuit rendered its decision in *Ultramercial v. Hula*<sup>xcix</sup>, which provides further needed guidance on how to determine whether software claims are subject matter patentable under 35 U.S.C. 101. In *Ultramercial*, the Federal Circuit was asked to decide whether a method for distributing copyrighted products over the Internet was subject matter patentable. In a unanimous decision written by Chief Judge Rader, the Court reversed the lower court in finding the

7,346,545 patent “process” claims to be patent-eligible subject matter within the meaning of 35 U.S.C. 101.

The patent before the court was U.S. 7,346,545. Claim 1 is illustrative and recites (**emphasis added**):

1. A method for distribution of products over the Internet via a facilitator, said method comprising the steps of:

a first step of receiving, from a content provider, media products that are covered by intellectual-property rights protection and are available for purchase, wherein each said media product being comprised of at least one of text data, music data, and video data;

a second step of selecting a sponsor message to be associated with the media product, said sponsor message being selected from a plurality of sponsor messages, said second step including accessing an activity log to verify that the total number of times which the sponsor message has been previously presented is less than the number of transaction cycles contracted by the sponsor of the sponsor message;

a third step of **providing the media product for sale at an Internet website**;

a fourth step of **restricting general public access to said media product**;

a fifth step of offering to a consumer access to the media product without charge to the consumer on the precondition that the consumer views the sponsor message;

a sixth step of receiving from the consumer a request to view the sponsor message, wherein the consumer submits said request in response to being offered access to the media product;

a seventh step of, in response to receiving the request from the consumer, facilitating the display of a sponsor message to the consumer;

an eighth step of, if the sponsor message is not an interactive message, allowing said consumer access to said media product after said step of facilitating the display of said sponsor message;

a ninth step of, if the sponsor message is an interactive message, presenting at least one query to the consumer and allowing said consumer access to said media product after receiving a response to said at least one query;

a tenth step of recording the transaction event to the activity log, said tenth step including updating the total number of times the sponsor message has been presented; and

an eleventh step of receiving payment from the sponsor of the sponsor message displayed.

As the court opined, these claims were subject matter patentable because they required “complex programming” to implement and they recited a “specific application to the Internet and a cyber-market environment”.<sup>c</sup> The court explained that “one clear example is the third step, “providing said media products for sale on an Internet website,” and another is that “they must be “restricted” – step four – by

complex computer programming as well.”<sup>ci</sup> The court was careful to point out that the limitation of a software claim to a “specific application to the Internet” is not a measure of subject matter patentability in all cases; even though this factor is one that contributed to the finding of the court that the ‘545 patent contains patent-eligible subject matter. “Complex computer programming”, on the other hand, provides that measure of subject matter patentability the court impliedly explained when stating that “[t]his court does not define the level of programming complexity required before a computer-implemented method can be patent-eligible.” *Id.* (“Viewing the subject matter as a whole, the invention involves an extensive computer interface.”<sup>cii</sup>)

Still, the court appears reluctant to expressly pronounce “complex computer programming” as the measure for gauging subject matter patentability of software, perhaps wary that limiting the measure to any one test might be viewed as a “bright-line rule” that recent history has shown to find disfavor with the Supreme Court.

*Ultramercial* is also significant in the absence of any discussion of the “functional and palpable test”, which was articulated by Chief Judge Rader in *Research Tech* last December for use in determining subject matter patentability questions. This may indicate a growing realization of the court about the subjectivity of the “functional and palpable test” for use as a yardstick for measuring subject matter patentability questions. While more subjective than the “functional and palpable test”, the “complex computer programming test” of *Ultramercial* still begs the question of just what amount of programming is required before the computer programming may be deemed to be “complex computer programming” sufficient to allow the software claims to pass through the subject matter patentability filter. Thus, *Ultramercial*, like its predecessor *Cybersource*, is likely to go down only as an important next step in the evolution of jurisprudence in this area toward a test that can be more objectively applied and lead to more consistent results.

## ***Dealertrack*: “Means-plus-Function” Claim Saves Software Patent**

The patent community continues to seek clarification on the post-*Bilski* boundary. The *Dealertrack v Huber* case gets us a little closer.

In *Dealertrack*<sup>ciii</sup>, the Federal Circuit provides one more new post-*Bilski* precedent on what constitutes patentable subject matter; this time in connection with software patents. On January 20, 2012, in a split decision, the Federal Circuit affirmed the invalidity of software patent claims because they preempted a general concept. The two patents before the court U.S. Patent No. 7,181,427 (“‘427 Patent”) and U.S. Patent No. 6,587,841 (“‘841 Patent”) were directed to a computer aided use of a clearinghouse specifically for car loan applications.

The ‘427 pre-empted the abstract idea of a clearinghouse, the court held, because the term “computer” did nothing more than the general computer in *Benson*, one of the trilogy of cases relied upon by the Supreme Court in its *Bilski* decision.<sup>civ</sup>

Claim 1 of the ‘427 patent is illustrative (**emphasis added**):

1. A **computer aided method** of managing a credit application, the method comprising the steps of:

**receiving credit application data from a remote application entry and display device;**

**selectively forwarding the credit application data to remote funding source terminal devices;**

**forwarding funding decision data from at least one of the remote funding source terminal devices to the remote application entry and display device;**

wherein the selectively forwarding the credit application data step further comprises:

sending at least a portion of a credit application to more than one of said remote funding sources substantially at the same time;

sending at least a portion of a credit application to more than one of said remote funding sources sequentially until a funding source returns a positive funding decision;

sending at least a portion of a credit application to a first one of said remote funding sources, and then, after a predetermined time, sending to at least one other remote funding source, until one of the funding sources returns a positive funding decision or until all funding sources have been exhausted; or;

sending the credit application from a first remote funding source to a second remote funding source if the first funding source declines to approve the credit application.

Unlike in its predecessor *Ultramercial* decision where “the patent claimed [a computer having] a practical application with concrete steps requiring an extensive computer interface,” the claimed computer in *Dealertrack* was neither a specific computer nor was involved in the method claims, the court explained.<sup>cv</sup> The recited computer amounted to an extra-solution activity that is not meaningful in the subject matter patentability analysis.<sup>cvi</sup>

As the court explained:

“Although the district court construed “computer aided” as a limitation, the ‘427 Patent “does not specify how the computer hardware and database are specifically programmed to perform the steps claimed in the patent.” See Invalidity at 6-7. The claims are silent as to how a computer aids the method, or the significance of a computer to the performance of the method. The undefined phrase “computer aided” is no less abstract than the idea of a clearinghouse itself. Because the computer here “can be programmed to perform very different tasks in very different ways,” *Aristocrat*, 521 F.3d at 1333, it does not “play a significant part in permitting the claimed method to be performed.” *Cybersource*, slip op. at 19 (citing *SiRF Tech.*, 601 F.3d at 1333). Simply adding a “computer aided” limitation to a claim covering an abstract concept, without more, is insufficient to render the claim patent eligible. See *SiRF*, 601 F.3d at 1333 (“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.”).<sup>cvi</sup>

With the general computer removed from the subject matter patentability equation, the court found only the restriction of the clearinghouse process to a “car loan” field of use recited in the claims to be of any consequence in the *Bilski* analysis.<sup>cviii</sup> But like the recited computer, the “car loan” field of use restriction was nothing more than an extra-solution activity that, like the recited computer, was not meaningful in the subject matter patentability analysis, the court said.<sup>cix</sup> The court found the limitation in the claim of restricting the general clearinghouse method to car loans in *Dealertrack* to be no different than the limitation in *Bilski* of restricting the general method of hedging to the energy market.<sup>cx</sup> When the claims were stripped of the limitations to a “computer” and the “car loans” field of use restriction, all that remained were claims that recited a general concept; the preemption of which is prohibited and hence is not subject matter patentable under *the Bilski* precedent.<sup>cxii</sup>

Just as important for what the *Dealertrack* court said about the ‘427 patent claims is what the court said about the claims of the ‘841 patent some of which were written in means-plus-function format and which arguably for that reason dodged the *Bilski* bullet. As noted by the court, the application-specific algorithms described in the specification and incorporated into the means-plus-function recitation of the ‘841 patent made those ‘means-plus-function’ claims specific computers. “[I]n a means-plus-function claim ‘in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the corresponding] structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm,” the court explained.<sup>cxiii</sup> In contrast, the “computer” recited in the ‘427 patent was without the structure of the algorithmic limitations found in the specification. As a general purpose computer that carried no weight in the subject matter patentability analysis, the ‘427 claims amounted to no more than the preemption of the clearinghouse abstraction, the court held.<sup>cxiiii</sup>

Hence, claiming software using means-plus-function language may provide one way to protect the software patent against a *Bilski* challenge since it can make a computer recited in a claim, “application specific,” as compared to a general purpose computer that may carry little weight in the *Bilski* analysis.

## Juhasz Law’s “Physical or Virtual Links” Test For Determining Subject Matter Patentability

At Juhasz Law, we have suggested in the past that the test for accurately defining the boundary line beyond which a business, software, or diagnostic method preempts a fundamental idea may lie in whether the method steps recite a physical or virtual link to something real. There must be a physical or virtual link of data manipulated by the software, for instance, to a physical or tangible object. That is, *a real or tangible object* must be **manipulated** by data as in *Diehr*. Or *data representing a real or tangible object* must be **manipulated** as in the Fifth claim of *Morse*. Both *Ulramercial* and *Cybersource* cases appear to support this view that the link of data to, that is, the manipulation of, something “real” may provide the clue to the patent eligibility of a business, software, or diagnostic method. For more on “virtual links” and “physical links” and their use, go to the following sources<sup>cxv</sup>.

The physical or virtual links argument provides a valuable tool that a practitioner may use in creating more certainty in crafting software claims to lie within 101. The “physical or virtual links” argument, first introduced by Juhasz Law in November 2010, has correctly predicted the outcome of each software decision post-*Bilski*.

## So When Is Software Subject Matter Patentable

The foregoing discussion has explored the case law on the different standards that have been used by courts to determine subject matter patentability. Even if one standard emerges as the definitive one, the problem still facing a practitioner is how to apply that standard to the particular claims at issue. A great example is the “complex programming” standard which in two recent cases has been applied by a different panel of judges in deciding arguably facially similar claims with different results. The *Dealertrack* panel of judges found “complex programming” to be absent in recited computer steps since the recited “computer aided method” phrase found in the preamble and the terms “remote application entry and display device” and “terminal device” were deemed to be general computers; thereby removed from the subject matter patentability equation. (“The claims are silent as to how a computer aids the method, the extent to which a computer aids the method, or the significance of a computer to the performance of the method.”<sup>cxv</sup>) This despite no doubt that the implementation of the *Dealertrack* method on a computer likely required “complex programming” in the literal sense of the term. On the other hand, the *Ultramercial* panel of judges essentially found the computer inherent in the Internet website recited in the claim to execute “complex programming,” referring in particular to the steps of “providing the media product for sale at an Internet website” and “restricting general public access to said media product” in their decision.

Since both claim sets arguably required “complex programming” in the literal sense of the term, the different outcome in each decision obviously turned on the role played by the computer in each case. The citation to *SiRF* in *Dealertrack* provides further insight on this point: “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 functioning 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.”<sup>cxvi</sup>

The question of when does a computer amount to “complex programming” then becomes, at what point does a recited computer “play a significant part” in permitting the claimed method to be performed such as to enable the claim to be subject matter patentable? The clue to answering this question may lie in part in the dicta of the *Dealertrack* court in connection with certain means-plus-function claims which arguably for that reason dodged the *Bilski* bullet.<sup>cxvii</sup> As noted by the court, the application-specific algorithms described in the specification and incorporated into the means-plus-function recitation of the ‘841 patent made those ‘means-plus-function’ claims specific computers. “[I]n a means-plus-function claim ‘in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the corresponding] structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm,” the court explained.<sup>cxviii</sup> In contrast, the “computer” recited in the ‘427 patent was without the structure of the algorithmic limitations found in the specification. As a general purpose computer that carried no weight in the subject matter patentability analysis, the ‘427 claims amounted to no more than the preemption of the clearinghouse abstraction, the court held.<sup>cxix</sup>

This clue suggests that if a software is recited using means-plus-function language the recited computer executing the software steps in the claims may be “application specific,” as compared to a general purpose computer that may carry little weight in the *Bilski* analysis. Of course, the downside to claiming software in this way is that the claim is limited to the structure disclosed in the specification and equivalents.<sup>cxx</sup>

This clue may also point to the importance of the “function” of the claim in the subject matter patentability analysis even when the claim is not in means-plus-function format. The proposition on this point may be put forward as thus.

1. If Complex programming likely demonstrates the claim is not abstract
2. And Function (e.g., means-plus-function) likely demonstrates complex programming
3. Then Function (e.g., non-abstract function of claim) may likely demonstrate the claim as being not abstract

A corollary to this proposition and pertaining to whether a recited “computer” should be characterized to be a general purpose or application specific computer might thus be as follows:

4. If Complex programming likely demonstrates that the recited computer is an application specific computer (i.e., not a general purpose computer)
5. And Function (e.g., means-plus-function) likely demonstrates complex programming
6. Then Function (e.g., non-abstract function of claim) may create an inference that the computer may be an application specific computer (i.e., not a general purpose computer). [Note: whether or not the computer will be characterized as an application specific computer will depend on the structure supporting that function as described in greater detail below.]

Whether or not these likelihoods bear to be true is claim recitation specific. For example, even if the function of a claim is non-abstract which under the propositions may create the inference that the recited computer is application specific, if a computer is plainly recited as doing no more than data storage and calculating that may not be enough to bring the claim within 101. Indeed that is part of the *Bilski* challenge when it comes to software patents, namely, determining when a computer is doing more than simply calculating and storing data. Nonetheless both propositions provide valuable insight into the likelihood of a software claim surviving the “complex programming” test for subject matter patentability.

Put differently, both propositions together underscore the premise that if the “function” sought to be served by the claim is an abstract process, then a recited computer (absent specific application recitations) in that claim is likely to be characterized as a general purpose computer. In other words, the computer will likely be characterized as having a 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. As a general computer, the recited computer will be removed from the subject matter patentability equation; thereby leaving a claim for an abstract process which is not patentable subject matter. Hence, for claims that are likely to be characterized as having an abstract function, the recited computer should be recited to be application specific or the claim will likely fail 101. In these cases, the computer must play a significant part in permitting the claimed method to be performed, otherwise the claim will fail under 101.

It is the first proposition that may go to the ultimate question of subject matter patentability. However, practitioners may find the second proposition to be more useful since case law involving software implemented processes indicate that the role served by the computer in the claim is being more strictly scrutinized in the subject matter patentability analysis. If the computer amounts to nothing more than a general purpose computer the claim will likely fail 101. The second proposition thus provides practitioners with a tool for use in crafting software claims in a way that better ensures that the computer



is characterized as being application specific which ultimately helps the claim withstand a *Bilski* challenge. If the function of the claim is drafted in a way that it is not abstract, then the computer recited in that claim has a better chance of being characterized as application specific and the claim satisfying 101. On the other hand, if the function of the claim is characterized to be abstract, the claim will likely need to recite an application specific computer or the claim will likely fail 101.

Both propositions are borne out by the Supreme Court decisions in *Bilski* and its trilogy of predecessor cases of *Benson*, *Flook* and *Diehr*. They are also borne out in the progeny cases to *Bilski* based on the likely constructions given to the computer based recitations in those cases.

In *Bilski*, the Court held that the patent application for hedging risk fell outside § 101 because it preempted an abstract idea. The Court characterized the claims in *Bilski* as patenting "both the concept of hedging risk and the application of that concept to energy markets."<sup>cxix</sup> The *Bilski* process claims were found to be not subject matter patentable as claiming an abstract idea. The *Bilski* process claims did not expressly recite a computer; but even with a recited computer (unless perhaps one recited to be application specific) the outcome would not likely have been different.

Under the "complex programming" test in *Ulramercial/Dealertrack*, the computer, if one had been recited, would have likely been characterized as a general purpose computer and not application specific. This is because the function sought to be patented by the *Bilski* claims was essentially "a process for hedging risk in energy markets." The process is an abstract process as the *Bilski* Court observed since the function of "hedging risk in energy markets" is an abstract idea. Hence, had there been a recitation of a computer (unless perhaps one recited to be application specific) to run that process, the recited computer would likely not have played a significant part in permitting the claimed method to be performed, rather it would have functioned 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. *Dealertrack*

Turning next to the trilogy of cases on which *Bilski* relied, in *Benson* the Court held that the patent application for an algorithm to convert binary-coded decimal numerals into pure binary code fell outside § 101 because it preempted an abstract idea. The Court characterized the claims in *Benson* as patenting any use of the claimed method in a general purpose digital computer of any type.<sup>cxixii</sup> The *Benson* process claims was found to be not subject matter patentable as claiming an abstract idea. The *Benson* process claims inherently included a computer.

Under the "complex programming" test in *Ulramercial/Dealertrack*, the recited computer would have been characterized as a general purpose computer and not application specific. This is because the function sought to be patented by the *Benson* claims was essentially "a process for converting binary-coded decimal numerals into pure binary code." The process is an abstract process as the *Benson* Court observed since the function of "converting of binary-coded decimal numerals into pure binary code" is an abstract idea. Hence, the recitation of a computer to run that process did not play a significant part in permitting the claimed method to be performed, rather it functioned 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. *Dealertrack* The *Benson* claims would have failed the "complex programming" test of *Ulramercial/Dealertrack*.

In *Flook*, the Court held that the patent application for calculating an alarm limit fell outside 101 because it preempted an abstract idea. The Court characterized the claims in *Flook* as patenting any use of the claimed alarm method in the petrochemical and oil-refining industries.<sup>cxixiii</sup> The *Flook* process claims

were found to be not subject matter patentable as claiming an abstract idea. The *Flook* process claims recited a computer.

Under the “complex programming” test in *Ultramercial/Dealertrack*, the recited computer would have been characterized as a general purpose computer and not application specific. This is because the function sought to be patented by the *Flook* claims was essentially “a process for calculating an alarm limit.” The process is an abstract process as the *Flook* Court observed since the function of “calculating an alarm limit” is an abstract idea. Hence, the recitation of a computer to run that process did not play a significant part in permitting the claimed method to be performed, rather it functioned 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. *Dealertrack* The *Flook* claims would have failed the “complex programming” test of *Ultramercial/Dealertrack*.

In *Diehr*, the Court held that the patent application for process for molding raw, uncured synthetic rubber into cured precision products fell within § 101 because it did not preempt an abstract idea. The Court characterized the claims in *Diehr* as patenting a process for molding raw, uncured synthetic rubber into cured precision products. The *Diehr* process claims were found to be subject matter patentable as not preempting an abstract idea. As the Court explained “while an abstract idea, law of nature, or mathematical formula could not be patented, an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”<sup>cxxiv</sup> The *Diehr* process claims recited a computer.

Under the “complex programming” test in *Ultramercial/Dealertrack*, the recited computer would have been characterized not as a general purpose computer but as an application specific computer. This is because the function sought to be patented by the *Diehr* claims was essentially a “process for molding raw, uncured synthetic rubber into cured precision products.” The process is not an abstract process as the *Diehr* Court observed since the function of “molding raw, uncured synthetic rubber into cured precision products” is not an abstract idea. Hence, the recitation of a computer to run that process played a significant part in permitting the claimed method to be performed. It was not functioning 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. *Dealertrack* The *Diehr* claims would have satisfied the “complex programming” test of *Ultramercial/Dealertrack*.

Turning now to the progeny of cases post-*Bilski*, in *Research Tech*, the Federal Circuit held that the patent application for digital halftoning of gray-scale and color images utilizing a pixel-by-pixel comparison of the images against a blue noise mask fell within § 101 because it did not preempt an abstract idea. The court characterized the claims in *Research Tech* as patenting a process for digital halftoning of gray-scale and color images utilizing a pixel-by-pixel comparison of the images against a blue noise mask. The *Research Tech* process claims were found to be subject matter patentable as not preempting an abstract idea. The invention produced higher quality half-tone images while using less processor power and memory space.<sup>cxxv</sup> The *Research Tech* process claims included computer structure.

Under the “complex programming” test in *Ultramercial/Dealertrack*, the recited computer would have been characterized not as a general purpose computer but as an application specific computer. This is because the function sought to be patented by the *Research Tech* claims was essentially a “process for digital halftoning of gray-scale and color images utilizing a pixel-by-pixel comparison of the images against a blue noise mask.” The process is not an abstract process as the *Research Tech* court observed since the function of “digital halftoning of gray-scale and color images utilizing a pixel-by-pixel comparison of the images against a blue noise mask” is not an abstract idea. Hence, the recitation of a computer to run that process played a significant part in permitting the claimed method to be performed.

It was not functioning 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. *Dealertrack* The *Research Tech* claims would have satisfied the “complex programming” test of *Ultramercial/Dealertrack*.

In *Bancorp*, the District Court of Missouri held that the patent application for a computerized system for tracking insurance policies fell outside § 101 because it preempted an abstract idea. The court characterized the claims in *Bancorp* as patenting a process for a computerized system for tracking insurance policies. The *Bancorp* process claims were found to be not subject matter patentable as preempting an abstract idea. The *Bancorp* process claims recited a computer.

Under the “complex programming” test in *Ultramercial/Dealertrack*, the recited computer would have been characterized as a general purpose computer not as an application specific computer. This is because the function sought to be patented by the *Bancorp* claims was essentially a “a computerized system for tracking insurance policies.” The process is an abstract process as the *Bancorp* court observed since the function of “a computerized system for tracking insurance policies” is an abstract idea. Hence, the recitation of a computer to run that process played no significant part in permitting the claimed method to be performed. It was functioning 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. *Dealertrack* The *Bancorp* claims would have failed the “complex programming” test of *Ultramercial/Dealertrack*.

In *H&R Block*, the Magistrate in the District Court, E.D. Texas recommended that the patent application for patents on a tax refund idea involving a cash tax refund exchange for immediate cash by use of a security instrument recited as a “spending vehicle” fell inside 101 since the “spending vehicle” did not preempt an abstract idea. The Magistrate also recommended that a patent application for patents on a tax refund idea involving applying a cash tax refund to a loan fell outside 101 because it preempted an abstract idea. The Magistrate characterized the claims in *H&R Block* as patenting a process for a tax refund idea – one involving a cash refund by a spending vehicle and the other involving applying a cash tax refund to a loan. The *H&R Block* “spending vehicle” process claims were recommended to be subject matter patentable as not preempting an abstract idea; while the process of applying a cash tax refund to a loan was recommended to be not subject patent matter as preempting an abstract idea.. The *H&R Block* process claims recited a computer.

Under the “complex programming” test in *Ultramercial/Dealertrack*, the recited computer in the process for applying a cash tax refund to a loan would likely have been characterized as a general purpose computer not as an application specific computer. On the other hand, the recited computer in the process for cash refund by a spending vehicle could involve a special application computer depending on the construction given to the term “spending vehicle.” This is because the function sought to be patented by the first set of *H&R Block* claims was essentially a “a tax refund exchange involving a spending vehicle.” The process is not an abstract process as the Magistrate observed since the function of a “spending vehicle” is not an abstract idea. Hence, the recitation of a computer to run that process played a significant part in permitting the claimed method to be performed. It was not functioning 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. *Dealertrack* These claims would not have failed the “complex programming” test of *Ultramercial/Dealertrack*. On the other hands, the claims directed to a “applying a cash tax refund to a loan’ are directed to a function which is abstract in which case the computers in those claims would likely be general purpose computers and fail 101.

In *Cybersource*, the Federal Circuit held that the patent application for detecting credit card fraud which utilizes information relating credit card transactions to particular Internet addresses fell outside

101 because it preempt an abstract idea. The court characterized the claims in *Cybersource* as patenting a process for detecting credit card fraud which utilizes information relating credit card transactions to particular “Internet addresses. The *Cybersource* process claims were found to be not subject matter patentable as preempting an abstract idea.

Under the “complex programming” test in *Ultramercial/Dealertrack*, the recited computer would have been characterized as a general purpose computer not as application specific. This is because the function sought to be patented by the *Cybersource* claims was essentially a “process for detecting credit card fraud utilizing information relating credit card transactions to particular Internet addresses .” The process is an abstract process as the *Cybersource* court observed since the function of “detecting credit card fraud utilizing information relating credit card transactions to particular “Internet addresses” is an abstract idea. Hence, the recitation of a computer to run that process played no significant part in permitting the claimed method to be performed. It was functioning 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. *Dealertrack* The *Cybersource* claims would have failed the “complex programming” test of *Ultramercial/Dealertrack*.

In *Ultramercial*, the Federal Circuit held that the patent application for distributing copyrighted products over the Internet fell within § 101 because it did not preempt an abstract idea. The court characterized the claims in *Ultramercial* as patenting a process for distributing copyrighted products over the Internet. The *Ultramercial* process claims were found to be subject matter patentable as not preempting an abstract idea. The invention “provid[ed] the media product for sale at an Internet website” and “restrict[ed] general public access to said media product.”

Under the “complex programming” test in *Ultramercial/Dealertrack*, the recited computer was characterized not as a general purpose computer but as an application specific computer. This is because the function sought to be patented by the *Ultramercial* claims was essentially a “process for distributing copyrighted products over the Internet.” The process is not an abstract process as the *Ultramercial* court observed since the function of “distributing copyrighted products over the Internet” is not an abstract idea. Hence, the recitation of a computer to run that process played a significant part in permitting the claimed method to be performed. It was not functioning 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. *Dealertrack* The *Ultramercial* claims passed the “complex programming” test of *Ultramercial/Dealertrack*.

Lastly, in *Dealertrack*, the Federal Circuit held that the patent application for computer aided use of a clearinghouse specifically for car loan applications outside § 101 because it did preempt an abstract idea. The court characterized the claims in *Dealertrack* as patenting a process for distributing computer aided use of a clearinghouse specifically for car loan applications. The *Dealertrack* process claims were found to be not subject matter patentable as preempting an abstract idea.

Under the “complex programming” test in *Ultramercial/Dealertrack*, the recited computer was characterized as a general purpose computer; not as an application specific computer. This is because the function sought to be patented by the *Dealertrack* claims was essentially a “process for computer aided use of a clearinghouse specifically for car loan applications.” The process is an abstract process as the *Dealertrack* court observed since the function of “a clearinghouse specifically for car loan applications” is an abstract idea. Hence, the recitation of a computer to run that process played no significant part in permitting the claimed method to be performed. It was functioning 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. *Dealertrack* The *Dealertrack* claims failed the “complex programming” test of *Ultramercial/Dealertrack*.

It is important to emphasize that even if the function of a claim is non-abstract which under the foregoing propositions may create the inference that the recited computer is not a general purpose but an application specific computer, if a computer is plainly recited as doing no more than data storage and calculating then that computer may not be enough to bring the claim within 101. Hence, even if a means-plus-function claim had been at issue in *Benson* and *Flook*, for example, supported only by the abstract computer applications described in those cases, *Benson* and *Flook* would likely still have failed 101 since they would have been functioning 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. *Dealertrack*

Interestingly, the very things that the *Ultramercial* court pointed to in finding the computer to be performing “complex programming” are things that under the “physical and virtual links” model described in the previous section would have been characterized as a virtual link (i.e., the manipulation of data representing a physical or tangible object.) For example, the “media product” in *Ultramercial* is not unlike a “virtual product” and the “restricting of the general public access to the media product” is not unlike a “virtual security system” under the “physical and virtual link” model.

Finally, after going to press with this publication, the U.S. Supreme Court granted a petition for certiorari in *Ultramercial v. Hula*<sup>cxxvi</sup>, vacating the judgment and remanding the case to the federal circuit for further consideration in light of *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. \_\_\_\_ (2012). This does not necessarily mean that a majority of the justices disagree with the original decision. But it does suggest that the analysis used by the Federal Circuit needs to better align with the analysis articulated by the Supreme Court in its *Prometheus* decision. The same holds true for *Ass’n for Molecular Pathology v. Myriad Genetics, et al.*, a decision that held isolated DNA to be subject matter patentable, which was earlier also remanded by the U.S. Supreme Court to the federal circuit for reconsideration in light of *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. \_\_\_\_ (2012).<sup>cxxvii</sup>

The author continues to believe that for claims that are likely to be characterized as having an abstract function according to the proposition discussed above, the computer should be recited to be application specific or the claim will likely fail 101. In these cases, the computer *must* play a significant part in permitting the claimed method to be performed, otherwise the claim will fail under 101. Perhaps the guidance the Supreme Court has provided by its grant of certiorari in *Ultramercial* is that on remand, the federal circuit should adopt the language of the Supreme Court in its decision in lieu of the federal circuit created “complex programming test.” That, and explaining “how” the steps of “providing said media products for sale on an Internet website,” and of “restricting of the general public access to the media product” makes the recited computer an application specific computer that *does not preempt* the abstract idea.

## Conclusion

In *Bilski v. Kappos*, the US Supreme Court has explained that software is patentable while abstract ideas are not. The question for subject matter patentability of software simply put is thus what software claims are not abstract ideas. In one after another post-*Bilski* decision, however, the lower courts have struggled to answer this question as evidenced by the “functional and palpable” test in *Research Tech* (Federal Circuit); the “meaningful limits” test in *H&R Block* (E.D. TX); the “practical applications” test in *Bancorp* (E.D. MO); the “can it be performed in the human mind, or by a human using a pen and paper” test in *Cybersource* (Federal Circuit); and the “complex programming” test in *Ultramercial* and

*Dealertrack*. Even where there appears unanimity by two Federal Circuit panels on the “complex programming” test in answering this question, arguably facially similar claims in the two cases lead to two different outcomes under this test. The case law in this area has left a practitioner without clear, coherent, and consistent guidance on determining subject matter patentability of software claims other than “I know it when I see it.” This paper has spoken to two valuable tools that a practitioner may use in creating more certainty in crafting software claims to lie within 101. The first involves a novel proposition of defining the function of the claim; which if abstract will require the computer recitation to be application specific. The other is a proposition that was introduced by Juhasz Law in November 2010 which has correctly predicted the outcome of each software decision post-*Bilski* – to wit, the “physical and virtual link” approach to determining subject matter patentability.

# APPENDIX

Figure 1 of *Diehr* Held To Be Subject Matter Patentable

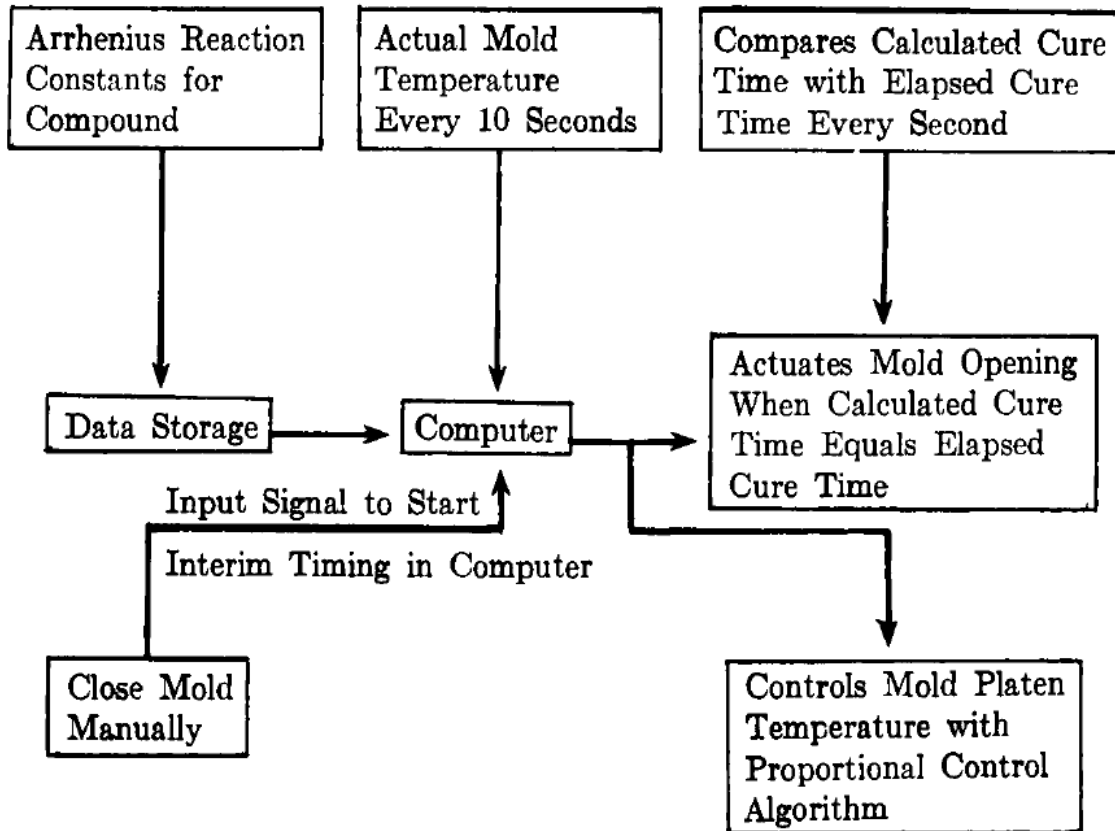


FIGURE 1

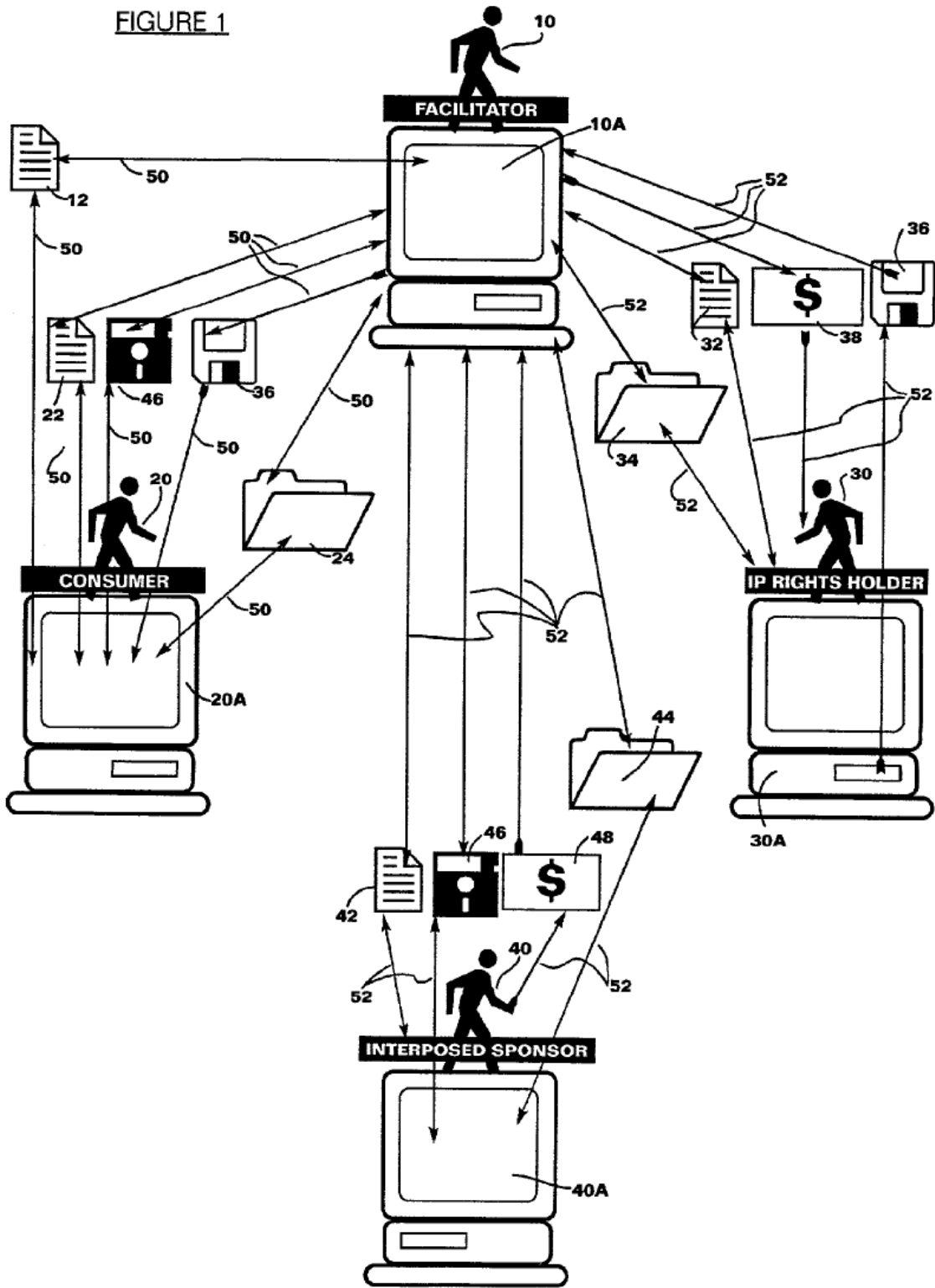
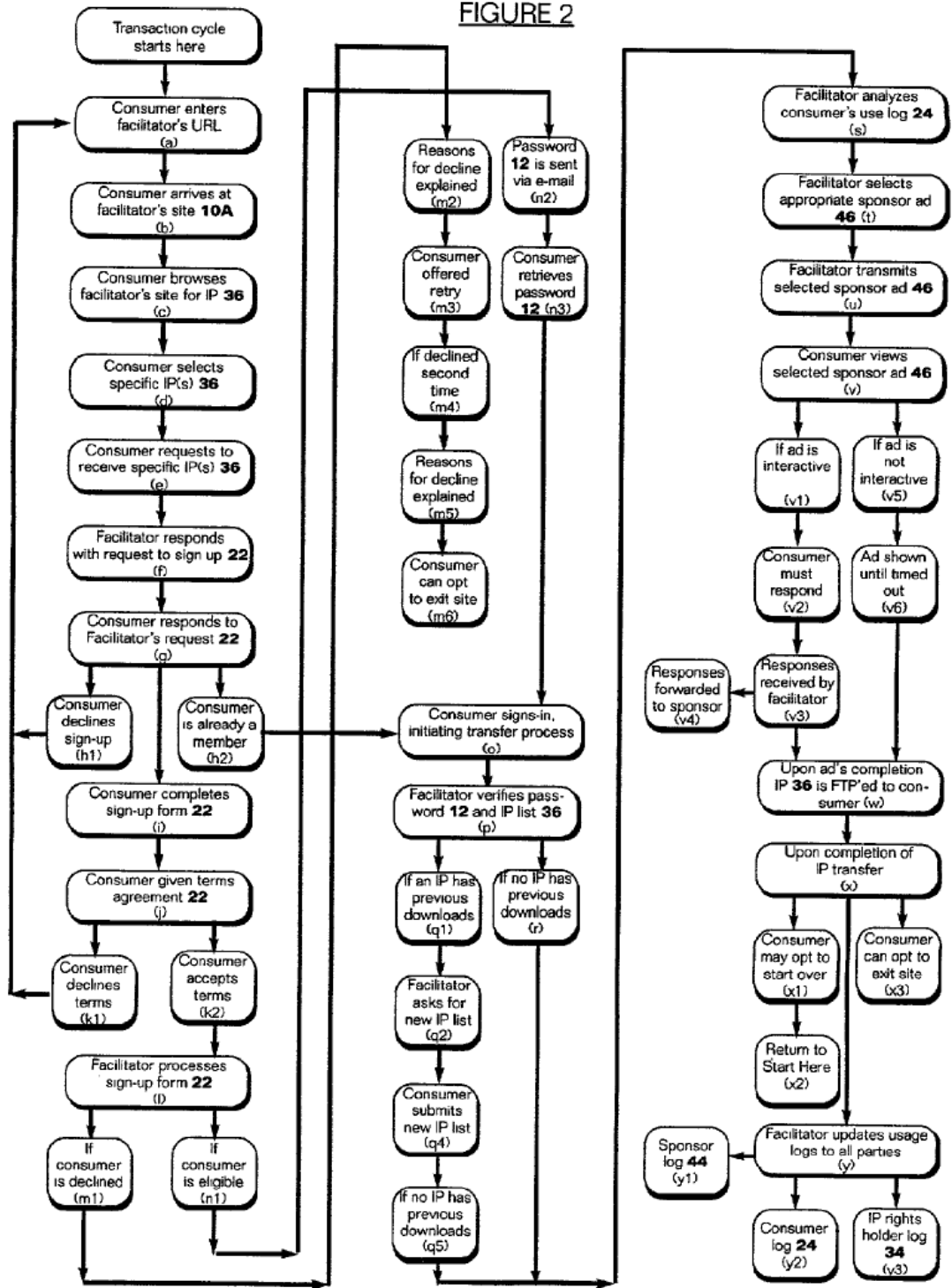
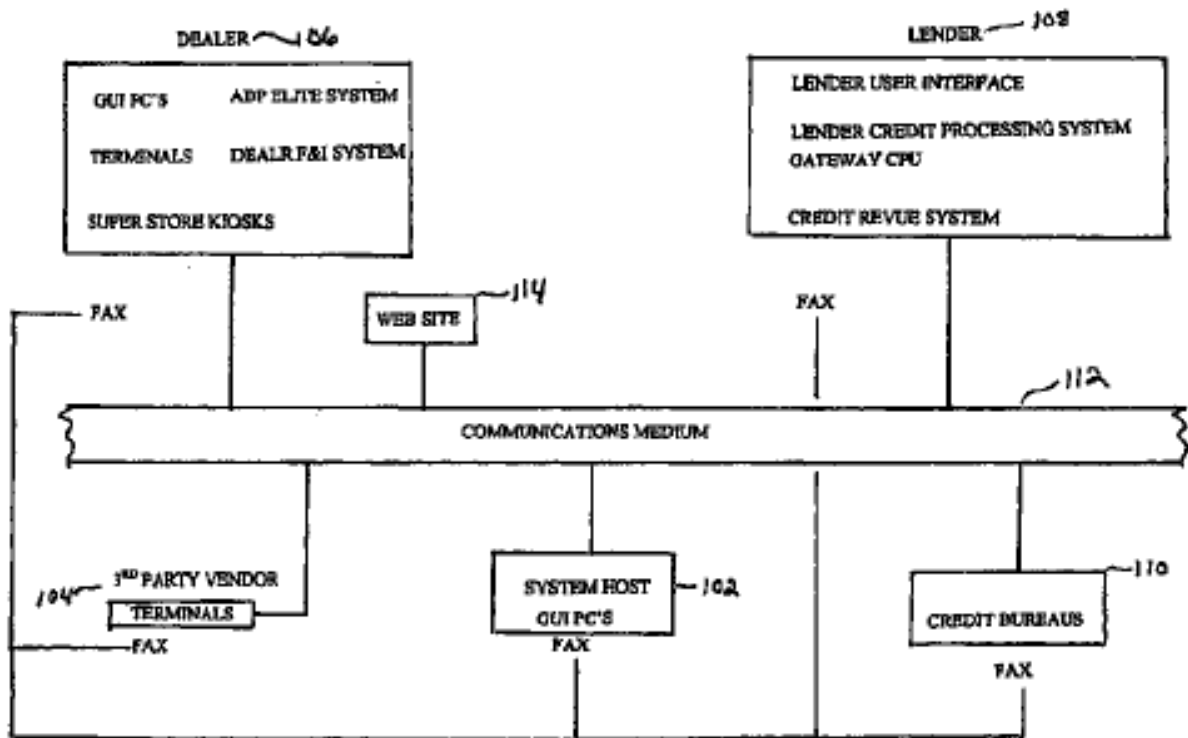




FIGURE 2



Dealertrack Method Claims Held Not Subject Matter Patentable



<sup>i</sup> The Juhasz Law Firm offers legal services that allow companies to better see, understand, and realize the potential strategic value from their IP. For more information on Juhasz Law visit the firm Web site at [www.patenthorizon.com](http://www.patenthorizon.com).

<sup>ii</sup> *In re Bilski*, No. 08-964, slip op. (S.Ct. Jun. 10, 2010); \_\_\_ U.S. \_\_\_ (2010).

<sup>iii</sup> *Id.*, at 2.

<sup>iv</sup> *Ibid.*

<sup>v</sup> *Id.*, at 3.

<sup>vi</sup> *Ibid.*

<sup>vii</sup> *Ibid.*

<sup>viii</sup> *Ibid.*

<sup>ix</sup> *Id.*, at 4.

<sup>x</sup> *Ibid.*

<sup>xi</sup> *Id.*, at 5.

<sup>xii</sup> *Ibid.*

<sup>xiii</sup> *Id.*, at 6.

<sup>xiv</sup> *Id.*, at 6-7.

<sup>xv</sup> *Id.*, at 8.

<sup>xvi</sup> *Id.*, at 9.

<sup>xvii</sup> *Id.*, at 10.

---

<sup>xviii</sup> *Ibid.*  
<sup>xix</sup> *Id.*, at 11.  
<sup>xx</sup> *Ibid.*  
<sup>xxi</sup> *Id.*, at 13.  
<sup>xxii</sup> *Ibid.*  
<sup>xxiii</sup> *Id.*, at 16. *Gottschalk v. Benson*, 409 U.S. 63, 65 (1972), *Parker v. Flook*, 437 U.S. 584 (1978), and *Diamond v. Diehr*, 450 U.S. 175 (1981).  
<sup>xxiv</sup> *Ibid.* (“*See, e.g., State Street*, 149 F. 3d, at 1373; *AT&T Corp.*, 172 F. 3d, at 1357”. *Id.* at 16 ).  
<sup>xxv</sup> *Id.*, at 1 (Stevens, J., dissenting).  
<sup>xxvi</sup> *Id.*, at 15; *Id.* at 47 (Stevens, J., dissenting)..  
<sup>xxvii</sup> *Id.*, at 1. In his opinion concurring in the judgment, Justice Breyer agreed with Justice Stevens that “a general method of engaging in business transactions” is not a patentable “process” within the meaning of 35 USC § 101. He nonetheless wrote a concurring opinion in order to highlight the substantial agreement among the Members of the Court on many of the fundamental issues of patent law raised by the case and to provide needed clarity and settled law in this highly technical area. *Id.*, at 1 (Breyer, concurring).

First, Section 101 is broad but not without limit. Second, the machine-or-transformation test has repeatedly helped the Court to determine what is “a patentable process.” Third, while the machine-or-transformation test has always been a “useful and important clue,” it has never been the “sole test” for determining patentability. Fourth, “this by no means indicates that anything which produces a “useful, concrete, and tangible result,” is patentable. (referring to *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F. 3d 1368, 1373 (Fed. Cir. 1998)) *Id.*, at 2-3.

<sup>xxviii</sup> *Id.*, at 9.  
<sup>xxix</sup> *Id.*, at 12.  
<sup>xxx</sup> *Id.*, at 4 (Breyer, concurring)..  
<sup>xxxi</sup> *Id.*, at 16.  
<sup>xxxii</sup> *Benson, supra*, at 65 (1972)  
<sup>xxxiii</sup> *Bilski*, at 13.  
<sup>xxxiv</sup> *Benson, supra*, at 69.  
<sup>xxxv</sup> *Bilski* at 13.  
<sup>xxxvi</sup> *Id.*, at 14.  
<sup>xxxvii</sup> *Ibid.*  
<sup>xxxviii</sup> *Ibid.*  
<sup>xxxix</sup> *Ibid.*  
<sup>xl</sup> *Diehr, supra*, at footnote 5.  
<sup>xli</sup> *Id.*, at 8 (Stevens, J., dissenting)..  
<sup>xlii</sup> *Id.*, at 5.  
<sup>xliii</sup> *Benson, supra*, at, 67, 72; *see also, e.g., Diehr, supra*, at 185 (1981); *Diamond v. Chakrabarty*, 447 U. S. 303, 309 (1980).  
<sup>xliv</sup> *Bilski, supra*, at 13.  
<sup>xlv</sup> *Id.*, at 9 (Stevens, J., dissenting).  
<sup>xlvi</sup> *Id.*, at 12  
<sup>xlvii</sup> *Ibid.*  
<sup>xlviii</sup> *Chakrabarty, supra* at 310, *citing Funk Brothers Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948).  
<sup>xlix</sup> *Funk Brothers Seed Co, supra*, at 130.  
<sup>l</sup> *Id.*, at 131.  
<sup>li</sup> *Id.*, at 128. The claim read: “An inoculant for leguminous plants comprising a plurality of selected mutually non-inhibitive strains of different species of bacteria of the genus *Rhizobium*, said strains being unaffected by each other in respect to their ability to fix nitrogen in the leguminous plant for which they are specific.” *Id. at footnote 1.*  
<sup>lii</sup> *Id.*, at 131.  
<sup>liii</sup> *Ibid.*  
<sup>liv</sup> *Id.*, at 130.  
<sup>lv</sup> *See, for example, Funk Brothers Seed Co, supra*, at 131.; *American Wood-Paper Co. v. Fibre Disintegrating Co.*, 90 U.S. (23 Wall.) 566 (1874); *Chakrabarty, supra*, at 303. In *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International*, 534 U.S. 124, 134 (2001), a 2001 case involving a plant patent, the US Supreme Court cited *Chakrabarty* for the long-standing notion that under the product of nature doctrine the “relevant distinction” for Section 101 purposes is not “between living and inanimate things, but between products of nature, whether living or not, and human-made inventions,” quoting *Chakrabarty* at 313. This case dealt with the Plant Variety Protection Act, where the product of nature doctrine was revisited in an effort to analyze the original Plant Patent Act of 1930.  
<sup>lvi</sup> The *Chakrabarty* court fully distinguished *Funk* by stating that in *Funk* there was merely the discovery of a natural possibility, which was the combination of root bacteria. On the other hand, in the present case, the inventor had “produced a new bacterium with markedly different characteristics from any found in nature.” *Id.* at 310. The Court said that “His discovery is not

---

nature's handiwork, but his own: accordingly, it is patentable subject matter under §101." *Id.* at 310. Thus, the inventor had "intervened at the genetic level to make something that nature had not and, apparently, could not." John M. Conley and Robert Makowski, "Back to the Future: Rethinking the Product of Nature Doctrine as a Barrier to Biotechnology Patents (Part II)," 85 J. Pat. & Trademark Off. Soc'y 371, 375 (2003). See discussion of *Chakrabarty* *infra*.

<sup>lvii</sup> "This is not to suggest that § 101 has no limits or that it embraces every discovery. The laws of nature, physical phenomena, and abstract ideas have been held not patentable." *Chakrabarty* at 309, citing *Parker v. Flook*, 437 U.S. 584 (1978); *Benson*, *supra*, at 67 (1972); *Funk* at 130; *O'Reilly v. Morse*, 15 How. 62, 112–121 (1854); *Le Roy v. Tatham*, 14 How. 156, 175 (1853).

<sup>lviii</sup> *Chakrabarty* at 310.

<sup>lix</sup> *Id.*, at 309, citing *Funk* at 130.

<sup>lx</sup> An alternate view may be that any *pure* mental process is manifested entirely within the brain and so is a creation of nature and hence is never "new" in the Section 101 sense of the word *per se* (no one is actually making or building anything—it is only going on inside one's head).

<sup>lxi</sup> U. S. Const., Art. I, §8, cl. 8.

<sup>lxii</sup> *Ibid.*

<sup>lxiii</sup> *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966).

<sup>lxiv</sup> *Ibid.* (As the Court recently opined, the infringement context does seem to reduce its importance, especially since it was followed by many Courts, including *Eldred's*.)

<sup>lxv</sup> *Id.*, at 5.

<sup>lxvi</sup> *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63 (1998) (emphasis added). See also, *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996) ("Congress created the Court of Appeals for the Federal Circuit as an exclusive appellate court for patent cases . . . observing that increased uniformity would strengthen the United States patent system in such a way *as to foster technological growth and industrial innovation.*" (citations and internal quotation marks omitted) (emphasis added)); *Diehr*, 450 U.S. at 188 n.11; *Benson*, 409 U.S. at 67, 71 (refusing to "freeze [the patentability of] process patents to old technologies, leaving no room for the revelations of *the new, onrushing technology*" (emphases added)).

<sup>lxvii</sup> *In re Musgrave*, 431 F.2d 882, 893 (CCPA 1970) (emphasis added).

<sup>lxviii</sup> *In re Bilski*, [545 F.3d 943](#), [88 U.S.P.Q.2d 1385](#) (Fed. Cir. 2008), p. 104.

<sup>lxix</sup> See footnote 60 *supra*.

<sup>lxx</sup> *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 2012 U.S. LEXIS 2316 (U.S. 2012), slip. Op. 11.

<sup>lxxi</sup> *Research Corp. Techs. v. Microsoft Corp.*, No. 2010-1037, slip op. (Fed. Cir. 2010); appeal from No. CV-01-658, 2009 WL 2413623. (D. Ariz. July 28, 2009).

<sup>lxxii</sup> *Id.*, at \*15.

<sup>lxxiii</sup> *Id.*, at 10.

<sup>lxxiv</sup> *Id.* at 15.

<sup>lxxv</sup> *Ibid.*

<sup>lxxvi</sup> *Jacobellis v. Ohio*, 378 U.S. 184 (1964).

<sup>lxxvii</sup> *Miller v. California*, 413 U.S. 15 (1973).

<sup>lxxviii</sup> *H&R Block Tax Services, Inc. v. Jackson Hewitt Tax Service, Inc.*, 6:08-cv-00037 (E.D. Tex., February 2, 2011).

<sup>lxxix</sup> *Ibid.*

<sup>lxxx</sup> *Diehr*, *supra*, at 192.

<sup>lxxxii</sup> *Bancorp Services, L.L.C. v. Sun Life Assurance Company of Canada*, No. 4:00-CV-1073, (E.D. Mo, February 14, 2011).

<sup>lxxxiii</sup> *Bancorp*, slip op., p. 5.

<sup>lxxxiiii</sup> *Cybersource Corp., v. Retail Decisions, Inc.*, No. 2009-1358, 2011 U.S. App. WL 3584472, (Fed. Cir. Aug. 16, 2011).

<sup>lxxxv</sup> *Cybersource*, slip Op. 8.

<sup>lxxxvi</sup> *Cybersource*, slip Op. 8, 9.

<sup>lxxxvii</sup> *Cybersource*, slip Op. 9.

<sup>lxxxviii</sup> *Cybersource*, slip Op. 12.

<sup>lxxxix</sup> *Id.*, at 12, 13.

<sup>lxxxix</sup> *Cybersource*, slip Op. 13.

<sup>xc</sup> *Ibid.*

<sup>xcii</sup> *Ibid.*

<sup>xciii</sup> *Ibid.*

<sup>xciii</sup> *Id.*, slip op. 14.

<sup>xciv</sup> *Id.*, slip op. 16.

---

<sup>xcv</sup> *Id.*, slip op. 17, 18.  
<sup>xcvi</sup> *Id.*, slip op. 19.  
<sup>xcvii</sup> *Classen Immunotherapies, Inc. v. Biogen IDEC*, -- F.3<sup>rd</sup> -- , 99 USPQ2d -- , 2011 WL 3835409 (Fed. Cir. 2011).  
<sup>xcviii</sup> *Id.*, slip op. 17.  
<sup>xcix</sup> *Ultramercial, LLC v. Hulu, LLC*, 657 F.3d 1323 (Fed. Cir. 2011).  
<sup>c</sup> *Id.*, slip op. 11.  
<sup>ci</sup> *Ibid.*  
<sup>cii</sup> *Ibid.*  
<sup>ciii</sup> *Dealertrack, Inc. v. Huber*, Case Nos. 09-1566; -1588 (Fed. Cir., Jan. 20, 2012).  
<sup>civ</sup> *Id.*, slip op. 36.  
<sup>cv</sup> *Ibid.*  
<sup>cvi</sup> *Ibid.*  
<sup>cvii</sup> *Id.*, slip op. 36.  
<sup>cviii</sup> *Id.*, slip op. 37.  
<sup>cix</sup> *Ibid.*  
<sup>cx</sup> *Ibid.*  
<sup>cxii</sup> *Id.*, slip op. 35.  
<sup>cxiii</sup> *Id.*, slip. op. 25.  
<sup>cxiiii</sup> *Id.*, slip op. 36.  
<sup>cxiv</sup> For more on physical and virtual links go to: <http://patenthorizon.com/main/services/virtual-links> See also the Juhasz Law Amicus Brief Filing in the U.S. Supreme Court Case of *Mayo Collaborative Services v. Prometheus* found at <http://patenthorizon.com/main/research-and-insights/publications>  
<sup>cxv</sup> *Dealertrack*, slip op. at 35.  
<sup>cxvi</sup> *Id.*, at 36.  
<sup>cxvii</sup> For more on the means-plus-function claims which arguably for that reason dodged the *Bilski* bullet, see <http://patenthorizon.com/main/blog-posts/dealertrack-%e2%80%9cmeans-plus-function%e2%80%9d-claim-saves-software-patent> .  
<sup>cxviii</sup> *Id.*, at 25.  
<sup>cxix</sup> *Ibid.*  
<sup>cxx</sup> 35 U.S.C. 112, para. 6.  
<sup>cxxi</sup> *Bilski, supra.*  
<sup>cxxii</sup> *Benson, supra*, at 65 (1972)  
<sup>cxxiii</sup> *Id.*, at 14.  
<sup>cxxiv</sup> *Ibid.*  
<sup>cxxv</sup> *Research Tech, supra.*  
<sup>cxxvi</sup> *WildTangent v. Ultramercial* (Supreme Court 2012) Docket No 11-962.  
<sup>cxxvii</sup> *Ass'n For Molecular Pathology v. Myriad Genetics, et al.*, (Supreme Court 2012) Docket No 11-725.