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Just Turn North on State Street and Then Follow the Signs Given by the Federal Circuit: A Sophisticated Approach to the Patentability of Computerized Business Methods

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JUST TURN NORTH ON STATE STREET AND THEN FOLLOW THE SIGNS GIVEN BY THE FEDERAL CIRCUIT: A SOPHISTICATED APPROACH TO THE PATENTABILITY OF COMPUTERIZED BUSINESS METHODS

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I. INTRODUCTION

Some movies follow a basic formula: the protagonist overcomes seemingly impossible odds to defeat an invincible antagonist. The hero typically receives assistance from valuable supporting characters. One of the most common supporting characters is an eccentrically brilliant scientist. The scientist is an intriguing character because his home or laboratory is always filled with amazing inventions that the world has never seen. The scientist then gives the hero the perfect new device that will defeat the evil villain. Although this stroll down movie lane has little to do with business method patents for computerized processes, the example of the eccentric scientist illustrates a major obstacle that patent law wishes to overcome. While we all love amazing inventions, the scientist will normally withhold technological advances from society. Because, no one knows about the new inventions no one can make subsequent advances. As a result, society is no better off.

More than two centuries ago, the United States established its own set of patent laws to promote technological advances in society. Patent law provides incentives for inventors to make their technological knowledge available to the public. By doing so, others can take this knowledge and develop further technological advances. However, as with other areas of law, computers and the Internet have caused much dispute within the field of patent law. The debate centers around the patentability of computerized business methods. More specifically, the major issue is whether new software designs comprise significant enough technological advances to deserve patent protection. Part II of this Article presents a brief history of the business method patent. Part III discusses the division of technology into two components. Part IV presents a sophisticated approach for analyzing computerized processes. Part V explores the substantiality approach and its application to both computerized business method patents and other areas of law concerning computers and the Internet. Part VI discusses the issues concerning business method patents for computerized processes. This Article will present the substantiality approach as a proper analysis of the patentability of computerized processes. This sophisticated

approach, demonstrates that there is no such thing as a business method patent; rather, business method patents are simply normal patents that follow the same analysis.

II. A BRIEF HISTORY OF THE BUSINESS METHOD PATENT

Patent law offers inventors patent protection in order to ensure public disclosure of the invention.[1] The applicant must disclose the entire invention claimed in the patent as a means to stimulate innovation within society.[2] As a result of public disclosure, others can learn the technology and create new advancements.[3] The patent act demands three initial requirements for patentability: usefulness, novelty, and non-obviousness.[4] Patentable subject matter may include virtually anything made by man.[5] The U.S. Supreme Court has identified three areas of nonpatentable subject matter: laws of nature, physical phenomena, and abstract ideas.[6] Mathematical algorithms are also unpatentable in their standing abstract form.[7]

In 1908, the Second Circuit Court of Appeals created the business method exception in *Hotel Security Checking Co. v. Lorraine Co.*[8] In *Hotel Security*, the circuit court struck down a patent granted for a method of financial accounting that eliminated theft by restaurant waiters and cashiers.[9] The circuit court proclaimed that a "system of transacting business disconnected from the means for carrying out the system is not, within the most liberal interpretation of the term, an art."[10] The circuit court failed to provide any further justifications for its newly formed business method exception.[11] Instead, the circuit court linked the exception to the abstract idea exception by claiming, "No mere abstraction, no idea, however brilliant, can be the subject of a patent irrespective of the means

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1. Russell A. Korn, *Is Legislation the Answer? An Analysis of the Proposed Legislation for Business Method Patents*, 29 FLA. ST. U. L. REV. 1367, 1368-69 (2002).

2. *Id.*

3. *Id.* at 1369.

4. 35 U.S.C. §§ 101-103 (West 2001).

5. Korn, *supra* note 1, at 1369.

6. *Id.*

7. *Id.*

8. Jason Taketa, *The Future of Business Method Software Patents in the International Intellectual Property System*, 75 S. CAL. L. REV. 943, 947-48 (2002); *see* Hotel Security Checking Co. v. Lorraine Co., 160 F. 467 (2nd Cir. 1908).

9. Taketa, *supra* note 8, at 948.

10. *Id.* (*citing Hotel Sec. Checking Co.*, 160 F. at 469).

11. *Id.*

designed to give it effect."[12] Another reason for the exception could be that business methods lack the degree of novelty or non-obviousness required for patent protection.[13] Additionally, business methods have always been protected by treating them as trade secrets.[14]

Initially, courts denounced mathematical algorithms as completely unpatentable.[15] The U.S. Supreme Court then relaxed the algorithm rule in *Diamond v. Diehr*.[16] In *Diamond*, the Court held that the invention as a whole claimed a physical process and not merely an algorithm; the invention, including the algorithm, was a patentable process.[17] The invention must claim a useful, concrete, and tangible result to be patentable.[18]

In *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, the Federal Circuit advanced the *Diamond* ruling by dismissing the business method exception altogether.[19] *State Street* involved the patentability of a Hub and Spoke data processing system that implemented an investment structure to administer and account for mutual funds.[20] The processing system transformed data into a final share price for mutual funds.[21] This transformation provided a result sufficiently tangible for patentability.[22] Although the process utilized an algorithm, the Federal Circuit determined that the system was patentable because the software algorithm created a useful, concrete, and tangible result.[23] The Federal Circuit mandated that the § 101 patentability analysis should not rest on whether the claimed subject matter performs business rather than something else.[24] The Federal Circuit held that the requirements of § 101 are met if the method can fit into one of the four broad enumerated categories: any new and useful: (1)

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12. *Id.*

13. Larry A. DiMatteo, *The New "Problem" of Business Method Patents: The Convergence of National Patent Laws and International Internet Transactions*, 28 RUTGERS COMPUTER & TECH. L.J. 1, 14 (2002).

14. *Id.* at 15.

15. Gottschalk v. Benson, 409 U.S. 63 (1972).

16. Diamond v. Diehr, 450 U.S. 175 (1981).

17. *Id.* at 187.

18. *Id.* at 183.

19. State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368 (Fed. Cir. 1998).

20. Linda E. Alcorn, *The Value of Business Method Patents*, 709 PLI/Pat 425, 432 (2002).

21. Korn, *supra* note 1, at 1370.

22. *Id.*

23. *Id.*

24. Alcorn, *supra* note 20, at 433.

process, (2) machine, (3) manufacture, or (4) composition of matter.[25] Significant in this holding is that the Federal Circuit never attempted to subdivide the term process into a number of subcategories.[26] Therefore, the Federal Circuit decided the case utilizing the mathematical algorithm theory prescribed in *Diamond*.[27]

The Federal Circuit squarely addressed the business method exception.[28] The Federal Circuit found that the business method exception was an illusory legal principle, and that business methods should be examined under the same analysis as any other process or technology.[29] After *State Street*, businesses scampered to file business method patent applications.[30] In 1998, the U.S. Patent and Trademark Office (USPTO) received approximately 1300 business method patent applications.[31] After *State Street*, some 2820 business method patent applications were filed in 1999 along with 7800 business method patent applications in 2000.[32]

The brief history lesson aside, at this conjecture a few points are necessary for the primary discussion of this Article. First, the Federal Circuit is a specialty court with specific jurisdiction over patent issues. The Federal Circuit did not create the business method exception; rather the exception was created by the Second Circuit. Second, the Federal Circuit has abrogated the business method exception and clearly expressed that business method patents are good patents.

Despite this decision by the Federal Circuit, a number of authorities continue to denounce the patentability of business method patents. These authorities attack the current domestic policy of granting business method patents for computerized processes. Thus, a dilemma is created that presents two possible explanations: (1) the Federal Circuit has erroneously applied the concept of patentability to computerized processes and the Internet; or (2) the Federal Circuit's critics still fail to understand how to apply patent law to computers and the Internet.

In this dispute, deference should be given to the Federal Circuit, considering this court deals exclusively with patent issues. To validate this deference, one must conduct a thorough analysis of the patentability of

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25. Wayne M. Kennard, *State Street: Business Method Patents Can They be a "Boardwalk Address?"*, 691 PLI/Pat 1155, 1158 (2002).

26. *Id.*

27. Korn, *supra* note 1, at 1370.

28. State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368, 1375 (Fed. Cir. 1998).

29. *Id.*

30. Korn, *supra* note 1, at 1370.

31. *Id.*

32. *Id.* at 1370-71.

computerized processes. Such an analysis requires a thorough understanding of technology.

III. DIVIDING TECHNOLOGY INTO TWO COMPONENTS

What exactly is an invention? While this inquiry may appear elementary, it is crucial to understanding the patentability of computerized business method patents. On September 3, 2002, the USPTO issued U.S. Patent No. 6,445,078 ('078 patent).[33] The '078 patent is a process that utilizes gravity to generate electricity.[34] While electricity has been generated for years using other methods, no one has generated electricity using gravity.[35] This process uses a reservoir.[36] Water travels by gravity from an upper reservoir to a lower reservoir.[37] During this transition, the water engages an electric generator that can generate a tremendous quantity of electricity.[38] The process requires machinery that continuously pumps water from the lower reservoir to the upper reservoir.[39]

Now what is the invention? Is it the machinery to handle the water? Obviously, the answer here is no. Cieslak has not invented any new machines: reservoirs, generators, pumps, and switch mechanisms are all common tools of machinery. None of these components represent any advances in technology.

Is the invention then electricity? Absolutely not; no analysis is necessary to prove that electricity is common to the modern world. Is the invention gravity? If there ever were a universal truth, gravity would be it. However, the '078 patent yields physical components that the world has not seen. While reservoirs, generators, pumps, and switch mechanisms are all common tools of machinery, no one has ever used them in constructing a perpetual motion machine. So is the invention a perpetual motion machine designed? Is the invention the new process to generate electricity using gravity?

If the perpetual motion machine is the invention, then we define the invention as the new physical object that performs a new function. If the invention is the new process of generating electricity, then we define the invention as the new function which is identifiable by a new physical object.

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33. *See* U.S. Patent No. 6,445,078, *available at* www.uspto.gov/ (last visited 2/12/2003).
34. *Id.*
35. *Id.*
36. *Id.*
37. *Id.*
38. *See* U.S. Patent No. 6,445,078, *supra* note 33.
39. *Id.*

Until now, both approaches have been merged together because technology has been in its adolescence in terms of both tangibility and substantiality.[40] Tangibility is a new physical object; e.g. the hammer, the gun or television. Substantiality is a new process; e.g. nuclear power or irrigation. Traditionally, defining an invention as the new physical object has been appropriate because no great distortion exists between the tangibility and substantiality of technology. Consider the invention of irrigation. The advances in this technology consist of substantiality, i.e., distributing water to dry areas for farming and tangibility i.e., a new device to distribute water to crops.

An illustration demonstrates the concept of an invention:

Universal Truth[41] + Construction = New Method + New Machine

This model represents a normal patent. The inventor uses universal truths and construction to design a new process (substantiality). Because substantiality and tangibility often move together, the invention yields a new machine (tangibility).

As an example, consider the first handsaw ever created. The universal truth involved is the cutting result of a sharp object acting upon a dull object. The inventor also used knowledge of construction to build the saw. By doing so, the inventor created a new process for cutting objects. This advance in substantiality requires a matching advance in tangibility — the new handsaw. From this model one can compare the '078 patent (a conventional patent) with a typical business method patent:

(1) Gravity + Construction = New Method of Generating Electricity + New Machine (a conventional patent)

(2) Algorithm + Software Design =
New Business Method (a business method patent)

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40. *See* Orin S. Kerr, *Computers and the Patent System: The Problem of the Second Step*, 28 RUTGERS COMPUTER & TECH. L.J. 47 (2002). Kerr presents a similar analysis to tangibility and substantiality, but his method describes the terms as value and physicality. While our analyses are similar to an extent, the tangibility/substantiality analysis provides benefits over the value/physicality analysis which will become more evident in subsequent sections. Kerr's article is used extensively because it bridges this work with previous works.

41. The universal truth will more closely fit the business method patent equation presented later. Opponents of business method patents for computerized processes describe algorithms as universal truths. Universal truths have always been used to create new inventions; universal truths are synonymous with natural laws.

Figure (1) illustrates the '078 patent, while Figure (2) illustrates a computerized business method patent. In Figure (1), the new method of generating electricity comprises the substantiality of the new technology, while the new perpetual motion machine comprises the tangibility of the new technology. The invention uses gravity, a universal truth, and construction to produce the desired result. In Figure (2), the new business method comprises the substantiality of the new technology, but there is no advance in tangibility.

This graphic model also shows several important points. First, the algorithm used in a computerized business method patent is a mathematical representation of a universal truth. Consequently, algorithms used in computerized business method patents are equivalent to universal truths used in normal patents. Second, the software design used in computerized business method patents is equivalent to construction used in normal patents. Third, normal patents and computerized business method patents both generate physical manipulations of universal truths.

In a normal patent, the invention yields a physical manifestation of a universal truth. In other words, the perpetual motion machine discussed earlier is a physical manifestation of gravity. Computerized business method patents utilize a similar manipulation. Computerized business methods operate using algorithms, which are mathematical representations of universal truths. The primary difference is that a normal patent yields a physical manifestation of a universal truth to accompany the newly invented process while a computerized business method patent utilizes a physical manifestation of a universal truth to create a newly invented process. In comparison, we see that computerized business method patents and normal patents consist of the same components.

A. *Progression of Tangibility and Substantiality*

The tangibility and substantiality of most technological advances progress at an equal or substantially equal rate. The model of a conventional patent reveals these progressions: new processes are created along with new machines. In other words, the tangibility and substantiality of an invention move in tandem.

Consider recent technological advances other than computers. The processes of faxing documents, viewing digitalized home movies and rapidly heating food each require that new machines perform new advances in substantiality. In these technologies, the substantiality and tangibility move in tandem. The increases in substantiality demand increases in tangibility for the substantiality to have a platform on which to function. The existing tangibility was insufficient for the new substantiality to

operate. Thus, society was given fax machines, DVD players, and microwave ovens while no one considered these developments to be unpatentable.

The tangibility and substantiality of computer technology progress at significantly different rates. The invention of the computer caused a giant leap in tangibility without an equivalent advance in substantiality.[42] Computers can perform practically any task desirable, but programmers must create the required instructions to produce these functions. Consequently, the substantiality of computer technology responds to the tangibility of computer technology.

At least with computers, substantiality is dependent upon tangibility. Windows XP simply will not run on a 15 year old IBM PC because the hardware must be able to support the demands of the software. As advances in substantiality are virtually unlimited in magnitude, these advances are dependent upon sufficient prior advances in tangibility.

While advances in substantiality persist, tangibility does not remain constant. Companies like Intel continually design faster, stronger chips.[43] Companies like Dell and Gateway design better computers capable of running advanced software. Before substantiality can progress to the realm of tangibility, tangibility has already advanced to the next level.

Consider a straight-line continuum representation of computer technology. The first invention of the computer advanced tangibility to the first point on the continuum. Substantiality then advances toward the first point. But before substantiality reached this point, tangibility advanced to the second point. The process is constantly repeating. Tangibility always progresses ahead of substantiality.

In other words, technological advances in software are dependent upon prior advances in hardware. As a result, a twist develops in model comparing computerized business method patents and conventional patents. Algorithms and software design equal universal truths and construction, respectfully, so the left side of the equation remains balanced. However, the new computerized process presents an advance in subjects of substantiality

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42. Charles Babbage originated the concepts behind the present day computer in the early 19th century. Babbage created logarithmic tables to eliminate the inaccuracy of human calculation. Babbage constructed a small difference engine in 1822 to carry out complex operations using only the mechanism for addition. Expressed in terms of tangibility and substantiality, Babbage realized that one major advance in tangibility would lead to numerous advances in substantiality. *See* Babbage's Presentation to the Royal Astronomical Society on June 14, 1822, *available at* http://www-gap.dcs.st-and.ac.uk/~history/Mathematicians/Babbage.html (last visited Mar. 29, 2003).

43. Currently, Intel provides the Pentium 4 chip. Imagine the possibilities of computer performance with the Pentium 9.

to prior advances in tangibility. There is no advance in tangibility because this advance was already created. This lack of new tangibility with computerized business method patents leaves an imbalance on the right side of the equation. With this imbalance, what analysis should apply to the patentability of computerized processes?

B. *The One-Step Approach*

One argument is that the invention of the computer disrupted the patent system by dividing the traditional one-step analysis of new inventions into two steps.[44] Unlike traditional machines and processes, computers "divide the brains of the operation (the algorithm) from the brawn (the hardware)."[45] According to Kerr, "this bifurcation imposes an all-or-nothing choice between two unsatisfying alternatives: either each algorithm is patentable, or none are; thereby forcing a decision of too much protection or too little."[46] Patent law was created to provide inventors with incentives to develop technological advances.[47] According to Kerr, however, the patent system only worked when value and physicality were closely linked.[48] Computers separate value and physicality: value now derives from the software rather than the hardware.[49]

Prior to the advent of computers, patents were granted for machines or processes.[50] Both machines and processes followed a simple analytical model: some kind of input is run through the new machine or process to produce some kind of output.[51] This one-step analysis applied to every machine and process, no matter how complex.[52] For example, suppose someone designed a new computer disk with an infinite amount of memory. The disk is guaranteed to save data and will never erase data absent user

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44. Kerr, *supra* note 40, at 48.

45. *Id.*

46. *Id.*

47. *Id.*

48. *Id.* Kerr discusses value and physicality. Although Kerr takes a similar approach to identifying the tangibility/substantiality components of technology, Kerr never expressly makes this statement.

49. Kerr, *supra* note 40, at 48. This is where the tangibility/substantiality and physicality/value analyses diverge. Kerr contends that computers separate the value and physicality components. This Article contends that tangibility and substantiality are both components of technology. Rather than separate the two, the invention of the computer made a far greater advancement in tangibility than substantiality. While this point hinges on minute detail, it affects the appropriate analysis to apply to the patentability of computerized processes.

50. *Id.* at 49.

51. *Id.*

52. *Id.*

direction. The computer disk solves two problems: losing data and having to utilize numerous disks to store hordes of data. This new disk follows the one-step, input-to-output analysis. The user inputs data, the disk automatically saves any entered data, and the user is left with protected data on the disk that can never be erased or lost absent specific direction from the user.

Analysis of patentable processes followed a similar analytical path.[53] Processes provided a series of steps for manipulating data from the input to the output.[54] Consider a law review article. Its authors desire to be published. The basic format of a law review article is no secret: an introduction, the body, and a conclusion. Of course, variations upon this format depend upon the writing styles and goals of the particular author as well as the subject matter of the article. But suppose someone develops a formula for writing law review articles that guarantees publication in any law review. The same analysis applies. The input is the research and writing of the author, and it is written utilizing this formula (put through this process). The end result is a law review article that the author can have published in any law review. By Kerr's analysis, patentability of a machine or process has been defined by the one-step, input-to-output conversion: one must convert real-world input into real-world output to qualify.[55]

C. *The Two-Step Approach*

Computers are dynamic machines that can be programmed to do many things.[56] What a computer currently is depends on what programs are currently directing the computer to perform certain functions.[57] The computer provides an operating system, which itself provides a platform for programs to run software applications.[58] In a single machine or process, computers consist of physical hardware that executes the instructions given by the software.[59]

Consequently, as Kerr argues, single step analysis is now divided into two steps.[60] First, computers operate by taking the user's input and feeding it to the software application running on the hardware. Second, the software directs the hardware to perform the necessary steps to create the

53. *Id.* at 50.
54. Kerr, *supra* note 40, at 50.
55. *Id.* at 50-51.
56. *Id.* at 51.
57. *Id.*
58. *Id.*
59. Kerr, *supra* note 40, at 51-52.
60. *Id.*

output.[61] This bifurcation of roles poses a difficult problem: should we patent only the hardware, a combination of the hardware and the software, or should both the hardware, and the software be patentable on an individual level?[62]

While Kerr's two-step analysis argument is intriguing, the analysis is flawed. First, no one suspects the hardware and the software needs to be patented under a business method patent. There is no concern about the hardware; the only focus is the software. Now, Kerr separated the tangibility from the substantiality of computer technology (stated as the decoupling of value and physicality).[63] His logical error occurred in separating the two concepts.

Tangibility and substantiality are both components of one thing — technology. Only a one-step analysis is necessary because the analysis does not apply to two physical things. Rather, a one-step analysis is applied to one multi-component thing. As discussed earlier, tangibility and substantiality of technology often progress at a somewhat equal rate.[64] The analysis of patentability was as follows: is it novel, non-obvious, and useful enough to receive a patent?[65] Because the advances in tangibility and substantiality occurred together, we believed that technology carried only one component: tangibility. A two-step approach was actually applied in the past as follows: whether the substantiality was patentable? And, whether the tangibility provided sufficient evidence of the patentability?

The invention of the computer has resulted in a massive leap in tangibility with only a modest advance in substantiality. Computerized processes demand only a one-step analysis: whether the substantiality is novel, non-obvious, and useful enough to receive a patent. Once the substantiality is patentable, there is no need to analyze tangibility. In *Cochrane v. Deener*, the U.S. Supreme Court held:

> A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art.[66]

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61. *Id.*
62. *Id.* at 52.
63. *Id.* at 48.
64. *See supra* text accompanying note 41.
65. Kerr, *supra* note 40, at 51.
66. Cochrane v. Denner, 94 U.S. 780, 788 (1876).

The *Cochrane* holding was consistently followed over time, but it was falsely understood as "limiting the patentability of processes to those that involve the transformation of a physical article or substance."[67] The intended function of the physical transformation requirement was to provide a generalized initial inquiry concerning the patentability of new processes.[68] If the process physically transforms a resource, the process must utilize new technology, and therefore the process is patentable.[69] If the process does not yield a physical transformation, it is likely to be non-technological and consequently, not patentable.[70] The physical transformation requirement effectively blocked the granting of patent protection for progress made in the liberal arts and sciences.[71]

Opponents of business method patents often falsely rely on the physical transformation requirement.[72] More precisely, these opponents falsely rely on the inverse of the physical transformation requirement. For example, all humans are mammals, but this scientific fact does not also mean that all mammals are humans. Opponents of business method patents apply this false logic to computerized processes. If a physical transformation is prima facie evidence of patentability, these opponents conclude that no physical transformation is definitive evidence of unpatentability.[73] Without a new tangible item, it is difficult to understand the patentability of computerized processes.

For example, Gladstone argues that all algorithms, mathematical or not, are laws of nature that should never be patentable.[74] Gladstone, like others, is stonewalled by the fact that algorithms are used in business method patents. However, the algorithm is not the substance of the invention. The substance of the invention is the new function that the method allows computers to perform. The algorithm is merely a means to create the new

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67. R. Carl Moy, *Subjecting Rembrandt to the Rule of Law: Rule-Based Solutions For Determining the Patentability of Business Methods*, 28 WM. MITCHELL L. REV. 1047, 1083 (2002).

68. *Id.* at 1084.

69. *Id.*

70. *Id.* It should be noted that this inverse of the physical transformation rule is not a given truth. Just because a process does not yield a physical transformation does not mean the process cannot be patentable. Instead, a presumption arises of non-patentability, but the process may still be patentable.

71. *Id.*

72. *See* Julia Alpert Gladstone, *Why Patenting Information Technology and Business Methods is not Sound Policy: Lessons From History and Prophecies for the Future*, 25 HAMLINE L. REV. 217 (2002).

73. *Id.* at 222-23.

74. *Id.* at 223.

function. Refer back to the models discussed above. Gladstone, among others, equates the algorithm in computerized processes to the method of conventional patents.[75] On the contrary, the algorithm in computerized processes is properly equated to the laws of nature utilized in designing normal patents. A closer examination of *AT&T v. Excel Communications, Inc.*,[76] will further explain the error in misapplying the physical transformation requirement.

D. AT&T v. Excel Communications, Inc.

On July 26, 1994, AT&T received U.S. Patent No. 5,333,184 ('184 patent).[77] The '184 patent consisted of a message record for long distance telephone calls which was enhanced by adding a primary interexchange carrier.[78] The '184 patent expedited the complicated billing scheme of advanced long distance billing.[79] The district court concluded that the patent claims implicitly recited a mathematical algorithm, and that the process failed to exert a substantive change in the format of the data.[80] Consequently, the district court, on summary judgment, held that the '184 patent was invalid for failure to qualify as patentable subject matter.[81] On appeal, the Federal Circuit held that the method claims were patentable subject matter under § 101.[82]

The Federal Circuit directly addressed the mathematical algorithm exception, claiming that the proscription against patenting mathematical algorithms is narrowly limited to mathematical algorithms in the abstract.[83] The Federal Circuit also re-emphasized that any electronic, chemical, or mechanical process involves an algorithm.[84] The Federal Circuit relied on the holding in *State Street* that "it is now clear that computer-based programming constitutes patentable subject matter so long as the basic requirements of § 101 are met."[85]

The Federal Circuit also concluded that patentability should not be determined by examining whether "there is a mathematical algorithm at

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75. *Id.* at 221.
76. AT&T v. Excel Communications, Inc., 172 F.3d 1352 (Fed. Cir. 1999).
77. *Id.* at 1353, 1447.
78. *Id.* at 1353-54.
79. *Id.* at 1354.
80. *Id.* at 1355.
81. *Id.*
82. *AT&T*, 172 F.3d at 1361.
83. *Id.* at 1356.
84. *Id.*
85. *Id.* at 1360.

work, but on whether the algorithm-containing invention, as a whole, produces a tangible, useful, result."[86] Finally, the Federal Circuit added that the U.S. Supreme Court never intended to create a fourth category of excludable subject matter:

> Rather, at the core of the Court's analysis . . . lies an attempt by the Court to explain a rather straightforward concept, namely, that certain types of mathematical subject matter, *standing alone*, represent nothing more than *abstract ideas until reduced to some type of practical application*, and thus that subject matter is not, in and of itself, entitled to patent protection.[87]

According to Kerr, the Federal Circuit utilized the inclusive approach that empowers any computerized algorithm as patentable subject matter.[88]

> Rather than acknowledge the conceptual difficulty created by the general purpose computer's capacity to divide the one-step process into two, the [Federal Circuit] has simply merged the two steps together when the invention is claimed as a machine, and held that the second step alone is patentable when claimed independently as a process.[89]

But Kerr is still tied down to the tangibility approach. As can be seen from the court's holding in *AT&T*, the court has made a fundamental shift towards the substantiality approach. Rather than focus on the lack of a physical bi-product generated from the '184 patent, the court has adopted the substantialist view that the invention is the new process rather than the physical object. Ironically, if the criticism of Kerr were stated differently, we have solved the problem of the patentability of computerized processes. The Federal Circuit realized the disparity between tangibility and substantiality in computer technology; thus, the Federal Circuit focused the analysis on the substantiality of computerized processes to determine patentability.[90]

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86. *Id.* at 1361.

87. *AT&T*, 172 F.3d at 1357 (emphasis added).

88. Kerr, *supra* note 40, at 58-59.

89. *Id.* at 59.

90. Finally we see here how Kerr's argument bridges the gap between this work and previous works. The disparity between tangibility and substantiality yields a one-step analysis focusing only upon the substantiality. Rather than bungle a two-step analysis into one step, the

IV. FOLLOWING THE LEAD OF THE FEDERAL CIRCUIT: A SOPHISTICATED APPROACH TO ANALYZE COMPUTERIZED PROCESSES

This Article will now take the analysis one step further and make a point that is missing: there is no such thing as a business method patent. In other words, business method patents are the same as conventional patents. Reconsider the '078 patent that uses gravity to generate electricity. This new process of generating electricity is certainly innovative, but it utilizes non-innovative components. First, none of the machinery (reservoirs, pumps, etc.) was new. The entire process is based on gravity, which is undeniably a universal truth. Also, the '078 patent relies on well-established principles of physics. More specifically, it concerned the result of bodies in motion acting upon stationary bodies; i.e. using kinetic energy from one body to convert the potential energy of a second body into kinetic energy. In summation, the entire product of the '078 patent is extremely innovative, new, and non-obvious. However, all of its component parts were already in existence — machinery and truths of nature. The only reason that the validity of '078 patent has not been attacked, is because its result was a new tangible perpetual motion machine.

With computer technology, inventions do not yield tangible items as physical bi-products. Compare the '078 patent to the business method patent of AT&T. AT&T certainly did not invent long distance billing, or the concept of charging customers for services provided. What AT&T invented was a faster, more efficient method of billing customers for long distance service. The process was made possible by using an algorithm, which created a new program that improved the efficiency of the existing hardware. The only difference between the '078 patent and the business method patent of AT&T is that the AT&T patent did not yield a physical bi-product. There is no giant construct connecting two reservoirs for all the world to see. Those who view inventions as tangible items rather than their relevant processes can never understand the true nature of inventions. The Federal Circuit in *AT&T* clarified the point when it stated that, "[t]he notion of physical transformation can be misunderstood. In the first place, it is not an invariable requirement, but merely one example of how a mathematical algorithm may bring about a useful application."[91] From this declaration, the Federal Circuit erased the distinction between a business method patent and

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Federal Circuit appropriately realized that the analysis is and always was one step. Once the substantiality of an invention is patentable, it is redundant to examine the tangibility of the invention.

91. *AT&T*, 172 F.3d at 1358.

a normal patent. Examine the words of the Federal Circuit in terms of tangibility and substantiality: an advance in tangibility is helpful, but not necessary, in determining the patentability of an invention. Phrased another way, an advance in substantiality alone is enough to constitute patent protection so long as all the requirements of patentability are met.

The *AT&T* ruling presents a model similar to the one discussed earlier:

(1) Gravity + Construction = New Method of Generating Electricity + New Machine

(2) Algorithm + Software Design = New method of Billing

Figure (1) represents the '078 patent, while Figure (2) represents the business method patent of AT&T. For both patents, the new substantiality is a new method of performing an existing function. The difference is that the '078 patent yields an advance in tangibility while the business method patent of AT&T yields no such advance. The requisite advance in tangibility was already created to make AT&T's advance in substantiality possible. Also, the Federal Circuit has expressly pronounced that the true analysis of patentability focuses on substantiality.[92] While new tangibility is helpful in analyzing substantiality, no advance in tangibility is necessary for an invention to be patentable. Therefore, setting the tangibility aside, the business method and conventional patents in this analysis consist of the same components. Both patents use a universal truth; gravity in one patent and an algorithm in the other. Both patents use basic technology, knowledge, construction, and software design. Both patents yield a new method of performing an existing function. Both patents are identical in terms of substantiality, which the Federal Circuit has proclaimed to be the focus of patentability.[93] In other words, there is no such thing as a business method patent, it is a conventional patent that follows the same analysis as any other patent.

A. *Why Can We Not Define a Business Method Patent?*

My contention that a business method patent is equivalent to a conventional patent is likely to face substantial opposition. Before my contention is criticized, I propose a single question: if there is such a thing as a business method patent, then why is there not one cohesive definition of a business method patent? The Business Method Patent Improvement

92. *See id.*
93. *See id.*

Act of 2001 (discussed in Part VI below) defines a business method as "(1) a method of processing data or performing calculation operations which is uniquely designed for or utilized in the practice, administration, or management of an enterprise; (2) any technique used in athletics, instruction, or personal skills; and (3) any computer-assisted implementation of a method described in (1) or a technique described in (2)."[94] A business method invention is defined as (1) any invention which is a business method (including any software or other apparatus); and (2) any invention which is comprised of any claim that is a business method.[95]

The USPTO has not specifically defined business-method patents, but it has only developed guidelines for examining them.[96] Accordingly, the USPTO created Class 705, entitled, "Data processing: financial, business practice, management, or cost/price determination."[97] Class 705 is the principal, but not the only, class for applications involving methods of doing business, defined as:

> This is the generic class for apparatus and corresponding methods for performing data processing operations, in which there is a significant change in the data or for performing calculation operations wherein the apparatus or method is uniquely designed for or utilized in the practice, administration, or management of an enterprise, or in the processing of financial data.[98]

Some argue that both approaches miss the point of the dispute.[99] The criticism launched against patents for business methods derives from the belief that the inventors of such methods made no technological advances. "Thus, a more appropriate definition of business-method inventions would be inventions in which the perceived advance over the prior art does not involve any changes in technology, such as computer hardware or software."[100]

Even the definition by Berkowitz of a business method patent is flawed. According to this definition, new software that allows computers to

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94. Alcorn, *supra* note 20, at 442.

95. *Id.* at 442-43.

96. Jeffrey A. Berkowitz, *Business-Method Patents: How to Protect Your Clients' Interests*, 688 PLI/Pat 7, 16-17 (2002).

97. *Id.* at 16.

98. *Id.* at 16-17

99. *Id.* at 18.

100. *Id.*

perform new functions is not an advance in technology.[101] Using this same logic, a machine could never be an invention because the inventor did not make an advancement beyond machinery (the process of designing machines). The better definition of a business method patent is an invention in which the advance over prior art does not yield a new physical object but rather consists of new technology that enables existing physical objects to perform new functions that are useful, novel, and non-obvious. This definition is correct and at the same time very similar to a conventional patent evaluated under a section 101 approach. Call it what you want, but a business method patent is nothing more than a conventional patent.

B. *Problems With The Tangilist*[102] *Approach*

Tangilists tend to take a strong, albeit unsophisticated position. Some believe that "by issuing patents on algorithms, the USPTO has ultimately granted exclusive control on abstract ideas rather than on the expression of the ideas when granting patents on computer software."[103]

What tangilists do not realize is that they compare the physical bi-product of conventional patents to the new processes developed by business method patents. They compare the substance of one invention with the secondary effects of another invention. Following the tangilist approach, there can never be another computer-like patent until the next invention after computers is created.

Tangilists have also misunderstood the guidance of the court and think that a physical object is mandatory in analyzing the patentability of inventions. The letter of the law is that a new physical object creates a presumption of patentability.

Furthermore, tangilists apply old arguments to a new medium. For instance, tangilists argue that business method patents will lead to lock-outs once a certain technology becomes a standard.[104] This is the age-old

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101. Berkowitz, *supra* note 96, at 18.

102. To clarify, we have thoroughly discussed tangibility as a component of technology. Tangilists are people stonewalled by the tangibility analysis.

103. Gladstone, *supra* note 72, at 225. No patent was ever granted to just an algorithm. *See also* Korn, *supra* note 1, at 1370 (stating that computerized processes merely have to pass the same patentability requirements as other inventions). Korn's use of the word "merely" is perplexing considering how hard it is to get a patent.

104. *See* Margaret Jane Radin, *Online Standardization and the Integration of Text and Machine*, 70 FORDHAM L. REV. 1125 (2002). Technology becomes a standard when every business in a particular field must use the technology to remain competitive. *See id.* at 1127-28. A lock-out occurs when a single business obtains intellectual property rights in a technology that ultimately becomes the standard. Other businesses are forced to either pay to use the technology or be locked-out from the market altogether. *Id.* at 1133.

argument against patent protection. Society has repeatedly made the choice to offer limited monopolies to promote innovation by creating and revising the patent system. If the limited monopoly exceeds its acceptable power that the law has given it, anti-trust laws can remedy the situation.[105] Tangilists have trouble dealing with computers and the Internet.[106]

C. *False Assumptions of Tangilists: How Much is a Business Method Patent Really Worth?*

To allow the patenting of business methods initiates an analysis of the example of the prisoner's dilemma.[107] The dilemma of the prisoner is simply analyzed within the scope of business method patent protection. The first option is that no one patents business methods. If no one patents business methods, then no patenting costs exist. The second option is that everyone gets a patent. With everyone patenting, everyone experiences patenting costs, but these costs are offset by cross-licensing.

However, to benefit from cross-licensing, businesses must patent valuable business methods. Hence, at least in the short-run, everyone experiences patenting costs. The third option is that some patent business methods while others do not. In this scenario, those who patent can effectively crush the competition. The businesses without patents are forced to pay licensing fees or are simply left without a meaningful mode for competition. Just as the prisoner in the prisoner's dilemma always has an incentive to testify, businesses now always have incentives to patent. In fact, corporate CEOs now complain about being forced to aggressively pursue business method patent protection in order to protect research and development investments.[108] Thus, allowing patents for computerized business methods imposes short run costs on businesses.

Even after a patent is granted, the complexities of enforcing a patent often outweigh the value of the patent. Stated differently, a patent often

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105. *See* Mark A. Lemley, *Antitrust and the Internet Standardization Problem*, 28 CONN. L. REV. 1041 (1996).

106. *See* Gladstone, *supra* note 72, at 230. Gladstone realizes that computer technology is a field that fosters sequential improvements in technology. However, rather than understanding the substantiality component of technology, Gladstone erroneously believes that no computer process is patentable. Gladstone's observation of sequential improvements is correct, but this a result of substantiality and tangibility progressing at differing rates. *Id.*

107. The concept presented by Mark Murphey Henry, who lectures at the University of Arkansas School of Law. Aside from publishing numerous articles and teaching seminars, Henry serves as an adjunct professor at the William H. Bowen School of Law, teaching Patent Law and Policy and Advanced Trademark Law Practicum.

108. Berkowitz, *supra* note 96, at 24-25.

brings long run costs to the patent owner. This concept was demonstrated in *Amazon.com v. Barnesandnoble.com*.[109] While Amazon did receive a preliminary injunction, the Federal Circuit implied that the patent received by Amazon was worth next to nothing.[110] After the short run costs of prosecuting its patent, Amazon was forced to incur long run costs of defending its patent. Now that the patent received by Amazon is in serious jeopardy of invalidity, the total costs involved in obtaining and maintaining the patent greatly outweigh any value the patent once carried. Through the third quarter of 2000, Priceline.com experienced a net loss of $1.1 billion.[111] During the same period, ATG, an Internet company without a business method patent witnessed a net income of $7.3 million.[112] Amazon, with probably the most infamous business method patent, lost $720 million in 2000.[113] However, VeriSign, another Internet company without a business method patent, witnessed a net income of $4 million.[114]

After all the controversy surrounding business method patents, why are they not generating huge profits? The answer lies in the contention made earlier that a business method patent is just a conventional patent. Despite misconceptions of the temporary monopolies that patents grant, the truth is that about ninety percent of patents never develop into a profitable product.[115] With conventional patents, profitability is difficult because inventors must supply a market as well as create the new market.[116] Computerized processes present the same problem of profitability, but for a different reason. Computer hardware and software progress at dizzying speeds; it is now a cliche that software becomes obsolete by the time it can get to the market. Computerized business method patents become technologically obsolete long before the patent expires. Therefore, even with an extremely profitable computerized business method patent, the period of profitability is short-lived.

Equipped with this knowledge, one can make a privotal comparison between the substantiality approach and the tangilist approach. The substantiality approach will grant patents for computerized processes.

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109. 239 F.3d 1343 (Fed. Cir. 2001).

110. *Id.*

111. Andre J. Porter, *Should Business Method Patents Continue to be Patentable?*, 29 S.U. L. REV. 225, 268 (2002).

112. *Id.*

113. *Id.* at 269.

114. *Id.*

115. Henry, *supra* note 107.

116. *Id.*

These patents will not generate excessive profits to the owners, and these patent owners must disclose their knowledge to the public. The tangilist approach will not grant patents for computerized processes by relying on false presumptions. Inventors of new computerized processes will hide their knowledge as trade secrets, and the public can derive no value from the advances. The substantiality approach upholds the tenets of patent law, while tangilists seek to destroy these same tenets. The substantiality approach promotes innovation while tanigislists hinder innovation.

V. THE SUBSTANTIALITY APPROACH: ITS APPLICATIONS TO COMPUTERIZED BUSINESS METHOD PATENTS AND OTHER ISSUES OF COMPUTER AND INTERNET LAW

The Federal Circuit has applied the substantiality approach to uphold the patentability of computerized processes.[117] The substantiality approach properly compares the new processes created by conventional patents with the new processes created by business method patents. The substantiality approach avoids the ensuing confusion of comparing the substantiality of one invention to the tangibility of another invention. While this approach is the superior method, two questions emerge: (1) How did the Federal Circuit develop the substantiality approach; and (2) Is the substantiality approach applicable to other areas of law involving computers and the Internet?

A. *Origins of the Substantiality Approach*

The purpose of this Article is not to attempt to precisely pinpoint the origins of the substantiality approach. Rather, the position is that the substantiality approach represents the very essence of the common law system. Common law functions under concepts of fairness, and the underlying goal of law is rather simple — to provide remedies for injuries suffered. A basic study of the common law reveals terms such as promissory estoppel, unjust enrichment, equity, and restitution. Furthermore, the common law system was designed for the law to adapt to society.

For purposes of this Article, attention is directed to the substantiality approach regarding computer and Internet law issues. The primary observation is that the Federal Circuit was not the first court to utilize the substantiality approach. Rather, the substantiality approach was initially

117. AT&T v. Excel Communications, Inc., 172 F.3d 1352, 1358 (Fed. Cir. 1999).

developed in other areas of computer law.

In *United States v. Riggs*, defendants Neidorf and Riggs devised a scheme to defraud Bell South Telephone Company (Bell South).[118] Neidorf and Riggs used computers to steal a text file that contained information regarding the enhanced 911 system of Bell South.[119] Riggs downloaded the file from the home office of Bell South in Atlanta, Georgia, to his personal computer in Decatur, Georgia.[120] Riggs then transferred the file to Neidorf in Columbia, Missouri.[121] Neidorf stored the file on a bulletin board system used by hackers in Lockport, Illinois, where both men could work on the file.[122]

One of the major charges against the defendants was violation of 18 U.S.C. § 2314, which prohibits the interstate transfer of stolen property.[123] With a tangilist argument, Neidorf contested this charge, claiming that the only thing he ever transferred was "electronic impulses."[124] The U.S. District Court for the Northern District of Illinois held that Neidorf used his computer to transfer proprietary business information.[125] Therefore, the district court adopted the substantiality approach and discarded the argument made by Neidorf as "disingenuous."[126]

The *Riggs* case invalidates the tangilist approach. From a tangilist approach, the argument made by Neidorf is correct. Neidorf never physically went to Bell South, he never physically stole anything and he never transferred any physical object across state lines. The tangilist approach would legalize theft so long as no physical object is taken.

Conversely, the district court examined the substantiality of 18 U.S.C. § 2314. The statute prohibited the unlawful obtainment and transfer of the 911 system of Bell South. By illegally downloading and transferring the file,

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118. United States v. Riggs, 739 F. Supp. 414, 416 (N.D. Ill. 1990).

119. *Id.* at 417.

120. *Id.*

121. *Id.*

122. *Id.*

123. *Id.* at 418.

124. *Id.* at 420.

125. *Riggs*, 739 F. Supp. at 420-21. The district court relied on *United States v. Gilboe*, 684 F.2d 235 (2d Cir. 1982), which held § 2314 to cover electronic transfers of funds. The Second Circuit used the substantiality approach by realizing that the substance of the transaction was money illegally transferred from one account to another. The electronic signals used in the illegal transfer were merely the means of accomplishing the theft. The manner in which the funds were stolen did not change the fact that the funds were stolen. United States v. Gilhoe, 684 F.2d 235, 238 (2d Cir. 1982).

126. *Riggs*, 739 F. Supp. at 420.

Riggs and Neidorf essentially stole the schematics. They violated the substantiality of the statute. Accordingly, both men were convicted.

B. *Applicability of the Substantiality Approach to Trademark Issues Applying Computers and the Internet*

The Ninth Circuit Court of Appeals utilized the substantiality approach to contruct a rule against cybersquatting.[127] Cybersquatting occurs when an individual or organization registers in bad faith a domain name containing a famous trademark name.[128] For example, in *Panavision International v. Toeppen*, Toeppen registered the site www.panavision.com, where he posted pictures of Pana, Illinois.[129] When Panavision contacted Toeppen about their trademark rights, Toeppen tried to sell the domain name to Panavision for thirteen thousand dollars.[130] Toeppen had a long history of cybersquatting and then extorting money from other businesses.[131] From a tangilist approach, Toeppen did not do anything wrong. He instinctively bought a number of domains using company names. He also realized the companies would find these domains valuable. Understanding their value to these companies, Toeppen sold the domains to the companies at a premium.[132] Following the tangilist analysis, companies do not own the Internet; no property rights exist until companies register a domain. Thus, the tangilist approach would legalize a modern form of extortion.

The circuit court, however, utilized the substantiality approach. The circuit court recognized that domain names are often used to identify the owner of a web site.[133] The circuit court reasoned that when consumers go on-line to find a business, they expect the domain name to include the business name.[134] For example, consumers expect Panavision to be located at www.panavision.com. Therefore, "a domain name mirroring a corporate name may be a valuable corporate asset, as it facilitates communication with a customer base."[135] By registering www.panavision.com, Toeppen stripped from Panavision the value of its trademarks on the Internet, and

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127. *See* Panavision Int'l, L.P. v. Toeppen, 141 F.3d 1316 (9th Cir. 1998).

128. *See* 15 U.S.C. § 1125(d) (West Supp. 2002).

129. *Toeppen*, 141 F.3d at 1319.

130. *Id.*

131. *Id.*

132. *Id.* Each registration cost Toeppen $100. He attempted to resell the domains for as much as $15,000. *Id.*

133. *Id.* at 1327.

134. *Toeppen*, 141 F.3d at 1327.

135. *Id.* (*citing* MTV Networks, Inc. v. Curry, 867 F. Supp. 202, 203-04 n.2 (S.D.N.Y. 1994)).

then he attempted to sell the value back to Panavision.[136] Moreover, the actions of Toeppen forced consumers to perform extra searches to find Panavision on-line.[137] In one stroke, Toeppen injured consumers and diluted the trademark of Panavision.[138] Toeppen's actions diluted the Panavision trademark because he diminished the ability of the trademark to identify the goods and services of Panavision provided on the Internet.[139]

The *Panavision* case led to the passage of the Anticybersquatting Consumer Protection Act (ACPA).[140] The ACPA sets forth substantiality mandates to protect trademark owners. Essentially, the ACPA proscribes the registration of trademarks as domain names in an attempt to interfere with the ability of a trademark to help consumers identify goods and services.[141]

Recently, the U.S. Court of Appeals for the Fourth Circuit applied the substantiality approach of ACPA to jurisdictional issues concerning the Internet.[142] In *Porsche Cars*, the American and German Porsche companies brought suit against numerous individuals who had registered domain names using the word "porsche."[143] Two such domain names were registered by a British citizen.[144] A focal point of the case was whether the Virginia district court could maintain jurisdiction over a British citizen.[145]

The ACPA expressly permits in rem jurisdiction over a domain name if no basis for personal jurisdiction over the registrant exists.[146] The trademark owner may file suit in the judicial district where the domain registrar is located.[147] The circuit court used a traditional minimum contacts analysis to uphold the constitutionality of in rem jurisdiction allowances for ACPA.[148] Property alone is insufficient to support personal jurisdiction over a non-resident only "*as to matters unrelated to the property.*"[149] While the

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136. *Id.* at 1325.

137. *Id.* at 1327.

138. *Id.*

139. *Toeppen*, 141 F.3d at 1326-27; *compare* Avery Dennison Corp. v. Sumpton, 189 F.3d 868 (9th Cir. 1999) (establishing a high standard to show a trademark is famous enough to enjoy the dilution protection prescribed in *Toeppen*).

140. 15 U.S.C. § 1125 (West Supp. 2002).

141. *Id.*

142. *See* Porsche Cars N. Am., Inc. v. Porsche.net, 302 F.3d 248, 259-60 (4th Cir. 2002); Harrods Ltd. v. Sixty Internet Domain Names, 302 F.3d 214, 224 (4th Cir. 2002).

143. *See Porsche Cars*, 302 F.3d at 252.

144. *Id.*

145. *Id.* at 254-55.

146. 15 U.S.C. § 1125(d)(2)(A) (West Supp. 2002).

147. *Id.*

148. *See Porsche Cars*, 302 F.3d at 259-60.

149. *Id.*

task of the circuit court was not difficult in this case, the circuit court equated domain names with traditional concepts of property.[150] In other words, the circuit court used the substantiality approach to properly apply traditional laws of jurisdiction to the Internet.

C. *Benefits of the Substantiality Approach*

As presented in this section, the substantiality approach has effectively solved criminal law,[151] and trademark issues concerning the Internet. The substantiality approach recognizes the Internet as a new medium that requires a sophisticated interpretation of existing laws. When needed, minor legislation is passed to preserve the approach. The substantiality approach is successful because it focuses on the basic tenets of the law. Trademark law is designed to protect consumers.[152] Congress and the courts maintained this focus when modifying trademark law to apply to the Internet. With the success of the substantiality approach to trademark law on the Internet, logic dictates the substantiality approach will provide similar success in patent law.

Without direct reliance on other federal courts, the Federal Circuit has already reached this determination in *AT&T*.[153] It is important to note that the Federal Circuit did not rely on the cases discussed in this section. However, these cases show that the Federal Circuit and other federal courts have independently adopted the substantiality approach. By applying existing patent laws to computerized process, the Federal Circuit can effectively maintain the purposes and integrity of the patent system.

The Federal Circuit has adopted the substantiality approach to maintain the tenets of patent law. Patent law exists to make technological advances available to the public. Patent law has never protected the financial well-being of individual inventors.[154] Just as other federal courts adopted the substantiality approach to protect the tenets of criminal and trademark law, the Federal Circuit uses the substantiality approach to preserve the tenets of patent law.

Greater clarity would have ensued had the Federal Circuit explained *AT&T* in terms of substantiality, and analogized the cases discussed in this

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150. *Id.*

151. *See supra* text accompanying notes 118-26.

152. Thomas McCarthy, *McCarthy on Trademarks and Unfair Competition* § 2:33 (4th ed. West 2002).

153. AT&T v. Excel Communications, Inc., 172 F.3d 1352, 1358 (Fed. Cir. 1999).

154. *See* Christie v. Seybold, 55 F. 69, 77 (1893). Even though Seybold first conceived the patent, and was first to file, Christie won the patent because he was the first to reduce the design to a practical machine.

section. Nevertheless, the Federal Circuit and other federal courts have independently relied upon the substantiality approach to effectively resolve issues concerning computers and the Internet. By doing so, the Federal Circuit and other federal courts have provided the necessary foundation to analyze the real issues concerning computerized business method patents.

VI. THE REAL ISSUES CONCERNING BUSINESS METHOD PATENTS FOR COMPUTERIZED PROCESSES

After understanding that business method patents are just conventional patents, one can address the true issues facing the patentability of computerized processes. The first issue is the definition of patentability. A close examination of tangilists' arguments reveals a recurring theme–that the term patentability means that a patent is automatically granted.[155] However, patentability only means the computerized process may be patented; it must still pass all the other requirements under the Patent Act.[156] Patentability only means that the inventor of a new computerized process may file it with the USPTO.

The second, and more complicated issue, is the granting of bad patents by the USPTO. More precisely, the major concern is that patents will be issued for processes that merely computerize old ideas.[157] This concern is justified considering recent patents issued by the USPTO. Priceline.com received a patent for merely computerizing a dutch auction, and Mob Shop, Inc. received a patent for computerizing cooperative buying.[158] Even worse, the one-click patent belonging to Amazon.com has been equated to the computerized version of running a tab.[159] Fortunately, the USPTO has a strong history of adjusting patentability to new technologies.[160]

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155. *See* Malla Pollack, 28 RUTGERS COMPUTER & TECH. L.J. 61, 80-85 (2002).

156. *See* AT&T v. Excel Communications, Inc., 172 F.3d 1352, 1356 (Fed. Cir. 1999).

157. David Schumann, *Obviousness With Business Methods*, 56 U. MIAMI L. REV. 727, 763 (2002).

158. Eugene R. Quinn, Jr., *Abusing Intellectual Property Rights in Cyberspace: Patent Misuse Revisited*, 28 WM. MITCHELL L. REV. 955, 985 (2002).

159. *Id.* at 987; *see also* Tiffany Weeks, 17 BERKELEY TECH. L.J. 139, 139 (2002) (providing an excellent analysis of *Amazon.com v. Barnesandnoble.com, Inc.*, 239 F.3d 1343 (Fed. Cir. 2001)).

160. *See* Scott M. Alter, *The "One-Click" Patent and Amazon.com Decision – What Does it Mean for "Business Method" Patents?*, 691/PLI/Pat 1141 (2002).

A. *The USPTO Initiative*

On March 29, 2000, the USPTO implemented a Business Method Patent Initiative (Initiative), created to intensify the review of business method patent applications.[161] The USPTO promulgated several changes in the Initiative to ensure that only useful, novel, and non-obvious business method patents are issued.[162] These changes include adding examiners, increasing examiner training, expanding search criteria, and creating a second round for reviews.[163] The USPTO has hired hundreds of new examiners, and about 25% of the examiners in Class 705 have direct experience in examining business method patents.[164]The new measures are already bearing strong results; less than half of business method patent applicants actually receive a patent.[165]

The Initiative also calls for enhanced search criteria to examine business method patents.[166] Before the Initiative, discovering prior art for business method patents was a daunting task because available databases failed to provide prior art kept as trade secrets, and thus proved inadequate tools for examiners.[167] Searches in Class 705 now include mandatory searches of nonpatent literature to reveal prior art.[168] The Initiative provides Electronic Information Centers, which give examiners access to over nine hundred business and financial informationd databases.[169] Most of all, the Initiative provides for second-level review of all applications to ensure compliance with all search requirements.[170] The one problem with the Initiative is the present budget crunch for the USPTO, but that problem is easily remedied.[171] Additionally, once the surcharge is reinstated, the USPTO will have all the funding it needs.

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161. *Id.* at 1146.
162. *Id.*
163. *See* Schumann, *supra* note 157, at 764-65.
164. *Id.* at 766.
165. *Id.*
166. *Id.*
167. *See id.* at 764.
168. *See* Alter, *supra* note 160, at 1146.
169. *See* Korn, *supra* note 1, at 1375.
170. *See* Alter, *supra* note 160, at 1146.
171. *See* Schumann, *supra* note 157, at 765. Until 1998, the U.S. Congress allowed the USPTO to add a surcharge to patent fees as a source of funding. These surcharges generated approximately $120 million annually for the USPTO, which is roughly the amount needed to implement the Initiative. By simply reinstating the surcharge, the USPTO has complete funding for the Initiative.

Immediately following *State Street*, the USPTO issued several bad patents.[172] The main reason these bad patents were granted was that examiners had inadequate access to business method prior art. The Initiative has provided this requisite information, along with a number of other procedural safeguards. Issuing bad patents is no longer a problem.[173] With these new measures, coupled with the understanding that business method patents undergo the exact same analysis as other utility or conventional patents, the USPTO has already solved the crisis of the business method patent.

B. *Legislative Improvements*

Representatives Howard L. Berman and Frederick C. Boucher introduced the Business Method Patent Improvement Act of 2001 (Act) in an attempt to create a solution to the business method "crisis."[174] The Act is an attack against business method patents that fosters far more harm than good.[175] Aside from inaccurately defining a business method patent (discussed earlier), the Act imposes a ludicrous presumption of obviousness.[176] The Act seeks to alter the presumption in 35 U.S.C. § 103 by providing a presumption of obviousness for any invention in which the significant difference from the prior art is the implementation of the method through software.[177] Keep in mind that a presumption of obviousness is basically a presumption of invalidity.[178]

Consider for a moment how ludicrous the Act's presumption of obviousness is. One can legally prove an invention is obvious by demonstrating similar prior art.[179] But it is impossible to legally prove that an invention is non-obvious.[180] To legally prove that an invention is non-obvious, one must demonstrate what a person of ordinary skill in the art knows.[181] Such a person is aware of all the prior art available.[182] The universe of such prior art would consist of every pertinent publication,

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172. *Id.* at 727-28, 771.
173. *Id.* at 763.
174. *Id.* at 728-29.
175. *Id.* at 29-30.
176. Philippe Signore, *There is Something Fishy About a Presumption of Obviousness*, 84 J. PAT. & TRADEMARK OFF. SOC'Y 148, 149 (2002).
177. *Id.*
178. *Id.*
179. *Id.*
180. *Id.* at 157.
181. Signore, *supra* note 176, at 157.
182. *Id.*

every pertinent patent issued anywhere in the world, and every pertinent sale or use in the United States that occurred more than one year from filing.[183] Basically, the Act demands consideration of an infinite amount of prior art.[184] Just proving non-obviousness by a preponderance of the evidence would demand collecting over half of all the prior art (in other words, half of infinity).[185] Even throwing the academic argument aside, consider what the Act demands: an applicant must prove that others in the field do not know what they do not know.

The Act is a perfect example of what happens when tangilists who do not understand the application of patent law to computers, attempt to draft legislation. The product is a piece of legislation not worth the paper on which it is written; it will only foster additional confusion and controversy. Fortunately, the Act appears to have died in committee.[186] While the representatives should be commended for attempting to find a solution, the Act is wholly unnecessary and inadequate.

The USPTO and the Federal Circuit are working together, and have developed the solution. The Federal Circuit has embraced the substantiality approach towards the patentability of computerized processes. The USPTO has designed a detailed plan to avoid issuing patents that merely computerize routine business practices. The USPTO has also realized that a business method patent is a conventional patent. Rather than attempt to create a false definition of a business method patent, the USPTO has created a separate class of patents to identify computerized processes. If legislation similar to the Act is passed with differing standards and definitions, nothing good can result.

VII. CONCLUSION

The substantiality approach is the proper analysis of the patentability of computerized processes. Through it, we realize that computerized business method patents undergo the same scrutiny as normal patents. The important thing to keep in mind is the difficulty in obtaining a patent. The fact that a computerized process is patentable by no means guarantees that a computerized process will definitely receive a patent.

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183. *Id.*

184. *Id.*

185. *Id.*

186. Business Method Patent Improvement Act of 2001, H.R. 1332, 107th Cong. (2001) (amending Title 35, U.S. Code, to provide for the improvement in the quality of patents of certain investments).

We have to move beyond the novelty of computers and the Internet, and beyond the fear that the law is powerless to adapt to these technologies. Computers and the Internet have presented some problems within the law. However, the true nature of these problems consists of our application of law, not a breakdown in law. Law develops as society makes decisions on how it wishes to be governed. Existing law should always apply as long as society makes the requisite decisions, but some situations will demand a revision of current law. By taking the substantiality approach, we can identify these situations and properly adapt existing law to computers and the Internet. Our system of law is responsive rather than rigid; it was designed to adapt to unforeseen developments.