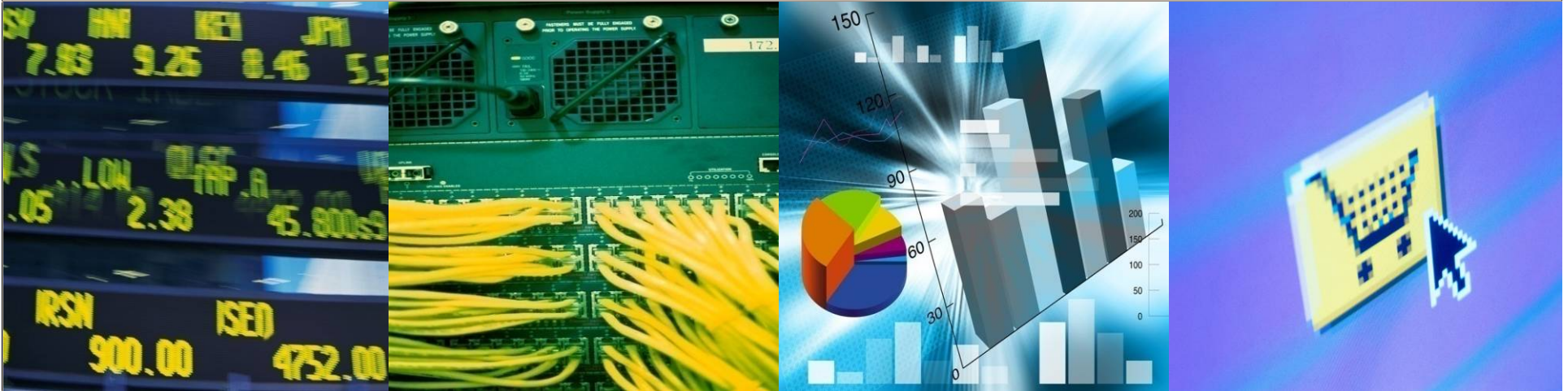


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Judicially Re(de)fining Software Patent Eligibility

Blake Reese*

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University of Florida

*Blake Reese is an attorney in the intellectual property and litigation group of Milbank, Tweed, Hadley & McCloy. The views expressed in the presentation are those of the author and may not be attributed to Milbank or its clients.

Roadmap

- Why not copyright, trademark, and trade secret protection for software?
- Why patents for software?
- American history (past and current) of software patent eligibility
- Non-US/US citizen's becoming patent agents



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- Why not copyright, trademark, and trade secret protection for software?
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Why not Copyright?

- Copyright protects the author's (coder's/designer's) creative expression, not the underlying ideas or functionality
 - “Thin” IP protection

Why not Copyright?

- To prove copyright infringement, generally need to show: (1) copy; and (2) access
- Stops “copy-cats”
- Independent authorship is always a defense to “access”

Why not Trademark?

- Protects against consumers' being confused as to the source or origin of a particular good or service

Why not Trade Secret?

- Trade secrets are anything of business value that are kept secret (not disclosed to public)
- Effectiveness requires privity

Why not Trade Secret?

- If Macrosoftware, Inc. develops a new type of data encryption (has business value) and takes technical measures to keep others out, such as having employment agreements with NDA provisions, and NDAs with contractors/partners (kept secret), then Macrosoftware can sue any of those employees, contractors, or partners for misappropriating it

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Why Patents?

- Protect the functionality of a system/method

Benefits of Patents

- Policy = quid pro quo b/t society and scientists/engineers
 - provide an economic incentive for scientists/engineers to disclose their innovations (not keep secret) by giving them a limited right to exclude others from practicing those innovations

Benefits of Patents

- “The Patent System added the fuel of interest to the fire of genius, in the discovery and production of new and useful things.”
 - Abraham Lincoln (President and Inventor)

UNITED STATES PATENT OFFICE

ABRAHAM LINCOLN, OF SPRINGFIELD, ILLINOIS.

BUOYING VESSELS OVER SHOALS.

Specification forming part of Letters Patent No. 6,469, dated May 22, 1849; application filed
March 10, 1849.

Benefits of Software Patents

- Two Boston Univ. Profs conducted economic study in 2007
 - Analyzed relationship b/t ventures holding patents in 27 different software markets
- Finding: “firms that have higher numbers of patents and patent applications pending are more likely to receive funding from outside investors, and more likely to subsequently ‘exit’ from the entrepreneurial phase through IPO or acquisition”
- Conclusion: outside investors appear to be focused on these firms’ ‘pipeline’ of IP assets under development

Benefit of Software Patents

- Patent applications → issued patents → barriers to entry → higher gross margins for products/services embodied in patents → more \$\$\$ to invest in R&D → future innovation → patent applications → and so on

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Constitutional and Statutory Framework

- Art. I § 8, cl. 8 of Constitution (Congressional Power to create patent system):
 - “The Congress shall have power ... [t]o promote the progress of the ... **useful arts**, by securing for limited times to ... inventors the exclusive right to their respective ... discoveries”
- 35 U.S.C. § 101 (1952) (patent eligibility statute):
 - “Whoever invents or discovers any new and useful [1] process, [2] machine, [3] manufacture, or [4] composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title”

Software Tensions



Early Supreme Court Guidance: *Mackay*

- “While a scientific truth, or the mathematical expression of it, is not a patentable invention, a novel and useful **structure** created with the aid of knowledge or scientific truth may be.”
 - *Mackay Radio & Tel. Co. v. Radio of Am.*, 306 U.S. 86, 94 (1939) (Stone, J.) (emphasis added).

Early Supreme Court Guidance: *Benson*

- *Gottschalk v. Benson*, 409 U.S. 63 (1972)
 - “The claims were not limited to any particular art or technology, to any particular apparatus or machinery, or to any particular end use.”
 - “Here the ‘process’ claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure binary conversion.”
 - “Transformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.”
 - “We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents.”
 - “It is said that the decision precludes a patent for any program servicing a computer. We do not so hold.”

Further Supreme Court Guidance: *Flook*

- *Parker v. Flook*, 437 U.S. 584 (1978)
 - Field-of-use restriction to catalytic conversion insufficient to distinguish *Benson*.
 - “[I]f a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.”

Further Supreme Court Guidance: *Diehr*

- *Diamond v. Diehr*, 450 U.S. 175 (1981)
 - “Although their process employs a well-known mathematical equation, they do not seek to preempt the use of that equation, except in conjunction with all of the other steps in their claimed process.”
 - “A claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, computer program, or digital computer.”
 - But, “[a]n argument can be made ... that this Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a different state or thing.”

Pre- Federal Circuit CCPA Guidance

- “*Freeman-Walter-Abele* test”:
 - (1) determine whether the claim recites an algorithm within the meaning of *Benson*; and, if so,
 - (2) determine whether the algorithm is “applied in any manner to physical elements or process steps” pursuant to *In re Abele*.

In re Freeman, 573 F.2d 1237 (C.C.P.A. 1978);

In re Walter, 618 F.2d 758 (C.C.P.A. 1980);

In re Abele, 684 F.2d 902 (C.C.P.A. 1982).

Federal Circuit Guidance: *Alappat*

- *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994)
 - 101 covers “any new and useful process, machine, manufacture, or composition of matter”
 - “We have held that such programming creates a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.”
 - “This is not a disembodied mathematical concept which may be characterized as an ‘abstract idea,’ but rather a specific machine to produce a useful, concrete, and tangible result.”

Federal Circuit Guidance: *Beauregard*

- *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995)
 - “The Commissioner now states ‘that computer programs embodied in a tangible medium, such as floppy diskettes, are patentable subject matter under 35 U.S.C. § 101....’”

Federal Circuit Guidance: *State Street*

- *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998)
 - “claim 1 is directed to a machine programmed with the Hub and Spoke software and admittedly produces a ‘useful, concrete, and tangible result.’”
 - “This renders it statutory subject matter, even if the useful result is expressed in numbers, such as price, profit, percentage, cost, or loss.”
 - “Since the 1952 Patent Act, business methods have been, and should have been, subject to the same legal requirements for patentability as applied to any other process or method.”
 - *Industrial Age v. Information Age*



Federal Circuit Guidance: *AT&T Corp.*

- *AT&T Corp. v. Excel Comm'cns, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999)
 - “[W]e are comfortable in applying our reasoning in *Alappat* and *State Street* to the method claims at issue in this case.”

Federal Circuit Guidance: *In re Nuijten*

- *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007)
 - Naked “signal” claims not patentable
 - Signal is not a “machine”
 - “Machine” means “a concrete thing, consisting of parts, or of certain devices and combination of devices.” See *Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 570 (1863).
- This “includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result.” See *Corning v. Burden*, 56 U.S. 252, 267 (1854).

In re Bilski

- *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008)
 - “A claimed process is [only] patent-eligible under § 101 if:
 - (1) it is tied to a particular machine or apparatus, or
 - (2) it transforms a particular article into a different state or thing.”
 - “[T]he use of a specific machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility”; and “not merely be insignificant extra-solution activity.”



In re Bilski

- *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008)
 - To be transformative, must:
 - Transform physical objects or substances; or
 - For electronic transformations, “[s]o long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.”
 - “we decline to adopt a broad exclusion over software or any other such category of subject matter”

Looming Uncertainty

- Federal Circuit does not fill in the confines of the machine-or-transformation test
- Federal trial courts and USPTO, on the front lines of these issues, forced to decide these issues
- Supreme Court grants cert to hear *Bilski* case

Bilski v. Kappos: Bilski goes to the Supreme Court

- *Bilski v. Kappos*, 561 U.S. ____ (2010)
 - Nine SCOTUS justices
 - All agreed that claims were “abstract”
 - Three different opinions written

Bilski v. Kappos: Bilski goes to the Supreme Court

- Majority Opinion:
 - MorT test is merely a “useful and important clue,” but is “not the sole test for deciding whether” a claimed process is patent eligible
 - concluded that the claims-at-issue were within what had been previously characterized as an unpatentable “abstract” idea
 - Did not define what would constitute a patentable “process”

Current State of Patent Eligibility

- USPTO applies MorT test
- Waiting for Fed. Cir. to develop limits of *Bilski v. Kappos* “abstraction” test

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What's a Patent Agent?

- Patent agents can prepare, file, and prosecute patents in the U.S.
 - Does not require a law degree
 - Just a hard science or engineering degree or background
 - Most major corporations and law firms hire patent agents

Patent Agent Req'ts

- Must pass the patent bar exam
 - **Option A**: To be eligible to take exam, need to show Bachelor's degree from US accredited school or foreign equivalent in one of the following:
 - Biology; Pharmacology; Electrochemical Engineering; Biochemistry; Physics Engineering; Physics; Botany; Textile Technology; General Engineering; **Computer Science**; Aeronautical Engineering; Geological Engineering; Electronics Technology; Agricultural Engineering; Industrial Engineering; Food Technology; Biomedical Engineering; Mechanical Engineering; General Chemistry; Ceramic Engineering; Metallurgical Engineering; Marine Technology; Chemical Engineering; Mining Engineering; Microbiology; Civil Engineering; Nuclear Engineering; Molecular Biology; **Computer Engineering**; Petroleum Engineering; Organic Chemistry; **Electrical Engineering**

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Patent Agent Req'ts

- Computer Science degrees must be accredited by the Computer Science Accreditation Commission (CSAC) of the Computing Sciences Accreditation Board (CSAB), or by the Computing Accreditation Commission (CAC) of the Accreditation Board for Engineering and Technology (ABET), on or before the date the degree was awarded.

Patent Agent Req'ts

- Must pass the patent bar exam
 - **Option B**: To be eligible to take exam, need to show:
 - A Bachelor's degree with certain combinations of coursework b/t 30-40 hrs of classes in physics, chem, comp. sci, and/or bio-related classes
 - **Option C**: To be eligible to take exam, need to show:
 - A Bachelor's degree; practical engineering or scientific experience; and pass the Fundamentals of Engineering (FE) test
 - See <http://www.uspto.gov/web/offices/dcom/olia/oed/grb.pdf>

Patent Agent Req'ts

- Must register properly and pay necessary fees
- Must have sufficient “moral character”
 - Applicants convicted of a felony or crime involving moral turpitude or breach of trust may not be eligible
 - Applicants who have been disbarred from a profession or resigned a license in lieu of a disciplinary proceeding may not be eligible

Patent Agent Req'ts

- Additional req'ts for non-US citizens
 - **Option 1**: Must be an “alien” who “lawfully resides” in the US
 - Registration cannot be inconsistent with the terms of alien’s lawfully residing in the US
 - Must establish this to register with evidence:
 - » The evidence must include a copy of both sides of any work or training authorization and copies of all documents submitted to and received from the USCIS regarding admission to the United States and a copy of any documentation submitted to the U.S. Department of Labor.
 - If alien ceases to lawfully reside in US, **Milbank** must satisfy option 2 req'ts.

Patent Agent Req'ts

- Additional req'ts for non-US citizens
 - **Option 2:** Must be registered to practice and in good standing before a foreign patent office that allows substantially reciprocal privileges to US patent agents
 - Can only represent patent applicants located in the country of that foreign patent office.

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Thank you (go Gators!)



Blake Reese

Milbank, Tweed, Hadley & McCloy LLP
1 Chase Manhattan Plaza
New York, NY 10005
(212) 530-5496
BReese@milbank.com

