Patent Protection for Computer Software
Current Practice in the USPTO and Courts

PIERCE LAW
FRANKLIN PIERCE LAW CENTER

Franklin Pierce Law Center, Concord, New Hampshire, USA

No Statutory Exclusions

- "Congress [in enacting the Patent Act of 1952] intended statutory subject matter to 'include anything under the sun that is made by man.'
- *Diamond v. Diehr* 450 U.S. 175, 182, (1981)

the general subject matter exclusions from patent eligibility

- "laws of nature,"
- "natural phenomena,"
- "abstract ideas."

Patent Act of 1952

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

Patent Act of 1952

- “Process”
- “Machine”
- “Manufacture”
- “composition of matter”
- “improvement thereof”
- A COMPUTER PROGRAM FITS INTO WHICH CATEGORY??

What does it mean to say that an invention is "patentable"?

- subject matter limitations as to what inventions *may be* eligible to be considered "patentable" do not address the question of what inventions ultimately *are* patentable.
- Threshold questions: is the applicant an inventor or did he derive it from another? Is there an invention ("subject matter")?

Patent Eligible Subject Matter May Not Be Protected Without Meeting ALL Other "*Conditions and Requirements*"

- Is the invention known to or in open use by others?
- Was "it" patented or described in a printed publication prior to its invention by the applicant?
- Are differences between the subject matter of the invention have been such that the invention as a whole would have obvious to one skilled in the art to which the invention pertains at the time the invention was made?
- Is "it" described in a manner permitting any others skilled in the art to practice the invention?
- Does "it" claim the scope of the invention, or more?

President's Commission on the Patent System 1966 Report

- lack of a classification techniques
- search capabilities
- volume of prior art being generated
- CONCLUSION: COPYRIGHT PROTECTION PREFERABLE FOR COMPUTER PROGRAMS

Gottschalk v. Benson 409 U.S. 63, 72 (1972)

- "converting signals from binary coded decimal form into binary [form]"
- Neither method claim had limitation as to machinery or a particular end use
- Rejected by examiner and on appeal
- "so abstract as to cover both known and unknown uses" SCOPE??

Gottschalk v. Benson 409 U.S. 63, 72 (1972)

- 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."

Patentable Process or Unpatentable "abstract idea"?

Does claim *recite* an algorithm?

Does claim *include* an algorithm?

If the claim includes more than an algorithm, is it the *algorithm* which is new? Or is it some *other* element of the claim which is new?

Parker v. Flook
437 U.S. 584 (1978)

- "novel mathematical formula in a computer program in which the operation of the formula was *followed by the recalibration of alarm limits in a catalytic conversion process*"
- "post-solution activity"
- Use of the formula without post-solution activity would not infringe claim
- PTO appeals to Supreme Court

Parker v. Flook
437 U.S. 584 (1978)

Only novel feature was formula

Supreme Court says:

"The process *itself*, not *merely* the mathematical algorithm, must be new and useful…."

Ignored novelty of "claim as a whole"

Diamond v. Diehr
450 U.S. 175, 182, (1981)

- method for operating a molding press during the curing of rubber articles, using a computer program employing the Arrhenius equation.
- PTO appeals to Supreme Court to reject
- Different outcome from *Parker*

Diamond v. Diehr
450 U.S. 175, 182, (1981)

Definition of "algorithm"

1. "simplified procedure for solving a complex problem" (narrow)
2. 2. "A defined process or set of rules that leads to and assures development of a desired output from a given input." (broader)
3. According to broader definition, subject matter is patentable as a "process"

Diamond v. Diehr
450 U.S. 175, 182, (1981)

Court says claim cannot be "dissected" into "new" and "old" elements to determine if subject matter is edligible to be patentable

Physical transformation of rubber occurred in the "Process"

"insignificant post-solution activity will not transform an unpatentable principle into a patentable process. "

Diamond v. Diehr
450 U.S. 175, 182, (1981)

- "a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, computer program, or digital computer."
- " The 'novelty' of *any* element or steps in a process, *or even of the process itself*, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter."

In re Alappat, 33 F.3d 1526 (Federal Circuit 1994)

- a "rasterizer " for improving the display of waveforms on a cathode ray tube screen
- Claimed as a "machine"
- PTO prevents grant of patent
- "an input to a circuit or processing function was converted into a different thing at the output"

In re Alappat, 33 F.3d 1526 (Federal Circuit 1994)

"a process, machine, manufacture, or composition of matter employing a law of nature, natural phenomenon, or abstract idea may be patentable even though the law of nature, natural phenomenon, or abstract idea employed would not, by itself, be entitled to such protection"

"certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas *until reduced to some type of practical application*"

In re Alappat, 33 F.3d 1526 (Federal Circuit 1994)

- "Principles of mathematics, like principles of chemistry, are "basic tools of scientific and technological work". Such principles are indeed the subject matter of pure science. But they are also the subject matter of *applied technology*…."

1996 USPTO Guidelines "Sea-change"

- when a computer program is recited in conjunction with a physical structure, such as a computer memory, the examiner should treat the claim as a product claim. When a computer program is claimed in a process where the computer is executing the computer program's instructions, the examiner should treat the claim as a process claim- see Guidelines Section IV.B.2(a)-(e)
- Computer program on floppy disk eligible

State Street Bank & Trust Co. v. Signature Financial Group, Inc. (Fed. Cir. 1998)

- "data processing system for managing a financial services configuration of a portfolio established as a partnership"
- Each claim component, recited as a "means" plus its function, is to be read, as inclusive of the "equivalents" of the structures disclosed in the written description portion of the specification.
- Claim is to a "machine"
- Practical application produces a "useful, concrete, and tangible result."

AT&T v. Excel Communication 172 F.3d 1352 (Fed. Cir. 1999)

a message record for long-distance telephone calls that is enhanced by adding a primary interexchange carrier ("PIC") indicator which can be used by long-distance carrier to provide differential billing treatment for subscribers, depending upon whether they called someone with the same or a different long-distance carrier.

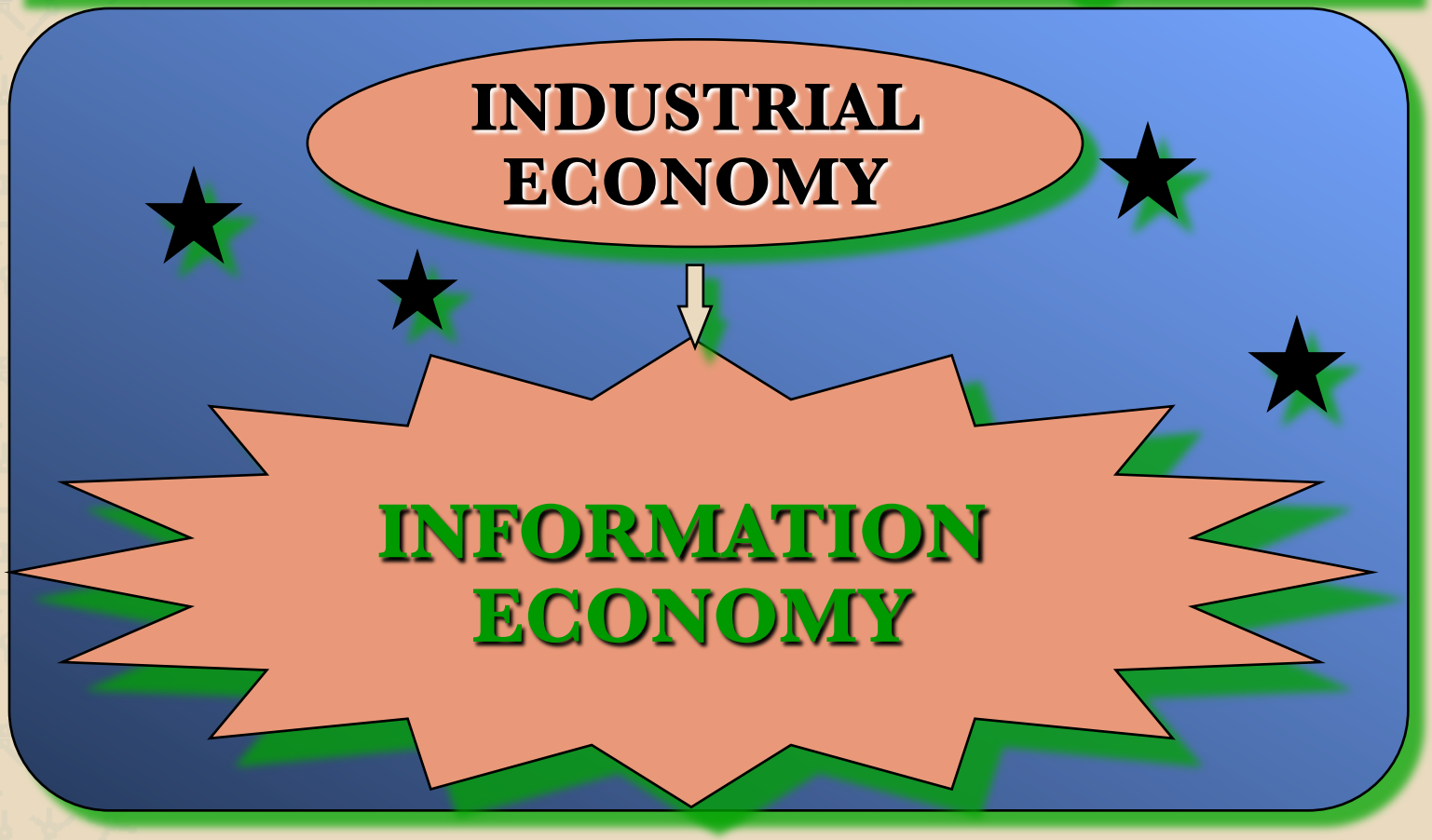
No "physical transformation"

Information in -- information out

AT&T v. Excel Communication 172 F.3d 1352 (Fed. Cir. 1999)

- "[A]fter *Diehr* and *Alappat*, the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter, unless, of course, its operation does not produce a 'useful, concrete and tangible result.' "

International Climate Post-Industrial Age



PIERCE LAW
FRANKLIN PIERCE LAW CENTER

THANK YOU !