

**CLASS 23**

**THE SUBJECT MATTER OF PATENTS II:  
BUSINESS METHODS & SOFTWARE**

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**PATENT LAW & POLICY**  
PROFESSOR WAGNER



**Today's Agenda**

**Patenting Business Models, Software**

# 1

## Patenting "Software"

35 U.S.C § 101 - Inventions patentable

Whoever invents or discovers any new and useful  
proc  
matt **The Subject Matter Requirement** n of  
reof,  
may obtain a patent therefor, subject to the conditions  
and requirements of this title

## **Categories of Subject Matter Limitations**

### **Products of Nature / Living Things**

Living Organisms

Naturally-Occurring Products

### **Mathematical Algorithms**

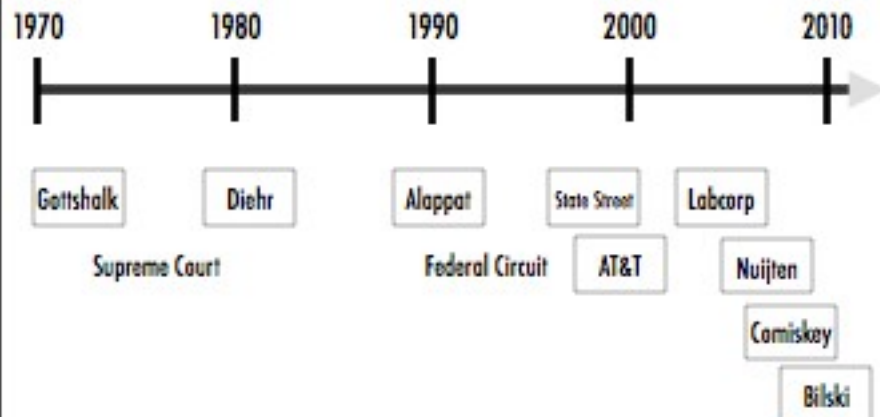
Abstract Ideas

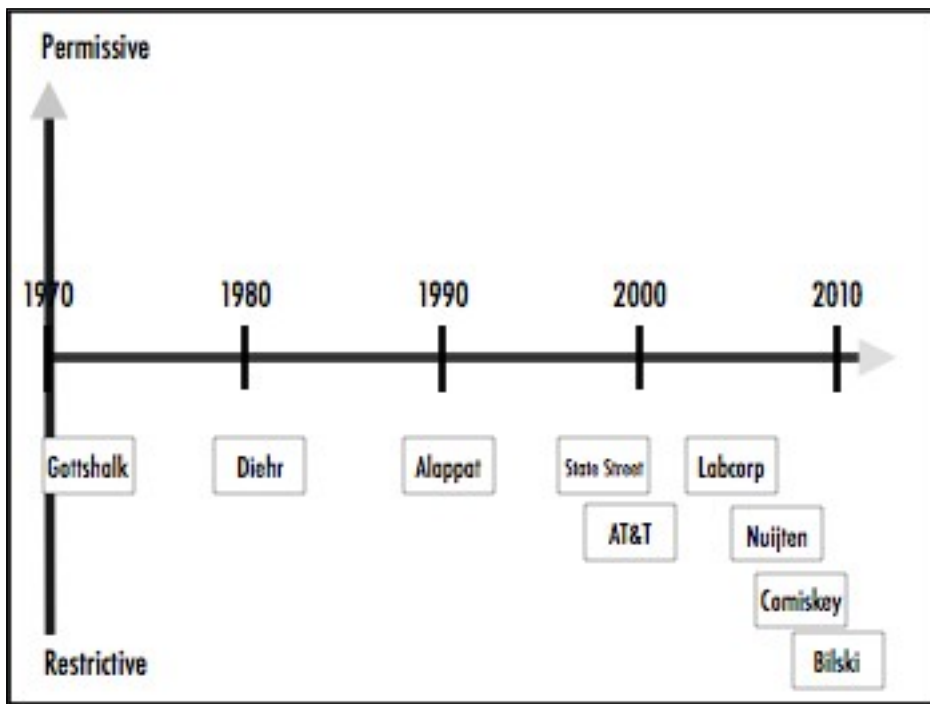
Computer Software?

Business Models?

**Why can't you patent math?  
(or "abstract ideas"?)**

# Overview of Caselaw





## Gottshalk v Benson (1972)

## Gottshalk v Benson (1972)



8. The method of converting signals from binary coded decimal form into binary which comprises the steps of
- (1) storing the binary coded decimal signals in a reentrant shift register,
  - (2) shifting the signals to the right by at least three places, until there is a binary '1' in the second position of said register,
  - (3) masking out said binary '1' in said second position of said register,
  - (4) adding a binary '1' to the first position of said register,
  - (5) shifting the signals to the left by two positions,
  - (6) adding a '1' to said first position, and
  - (7) shifting the signals to the right by at least three positions in preparation for a succeeding binary '1' in the second position of said register.

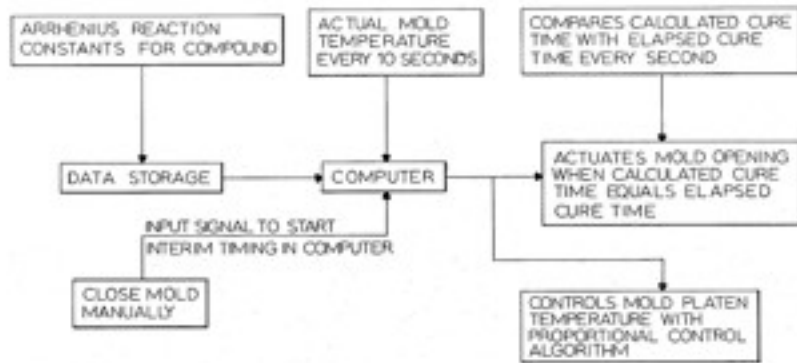
## Gottshalk v Benson (1972)



- [5] 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. So it is that a patent in the process of "manufacturing fat acids and glycerine from fatty bodies by the action of water at a high temperature and pressure" was sustained in *Tilghman v. Proctor*, 102 U.S. 707, 721, 26 L.Ed. 279. The Court said, "The

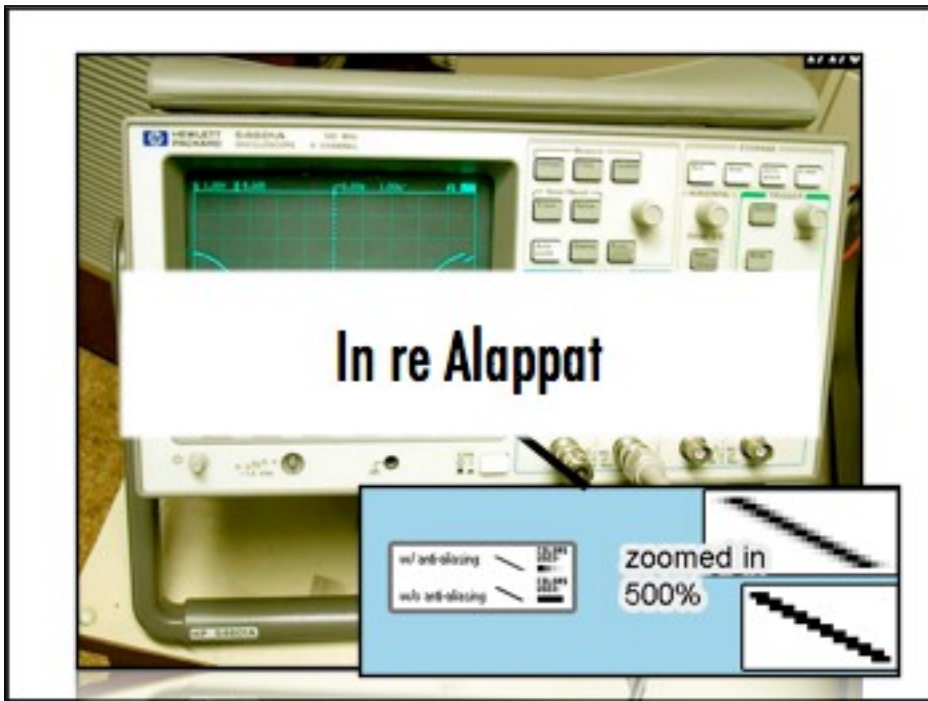


## Diamond v. Diehr (1981)



## Diamond v. Diehr (1981)

On the other hand, when a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e. g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101. Because we do not view respondents' claims as an attempt to patent a mathematical formula, but rather to be drawn to an industrial process for the molding of rubber products, we affirm the judgment of the Court of Customs and Patent Appeals.<sup>15</sup>

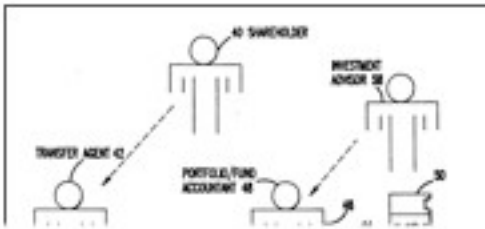


## In re Alappat

Although many, or arguably even all, of the means elements recited in claim 15 represent circuitry elements that perform mathematical calculations, which is essentially true of all digital electrical circuits, the claimed invention as a whole is directed to a combination of interrelated elements which combine to form a machine for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means. 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.

<b>Diehr</b>	<b>Alappat</b>
<p>[W]hen a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e. g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.</p>	<p>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.</p>

<b>Diehr</b>	<b>Alappat</b>
<p>[W]hen a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e. g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.</p>	<p>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.</p>



## State Street Bank (1998)

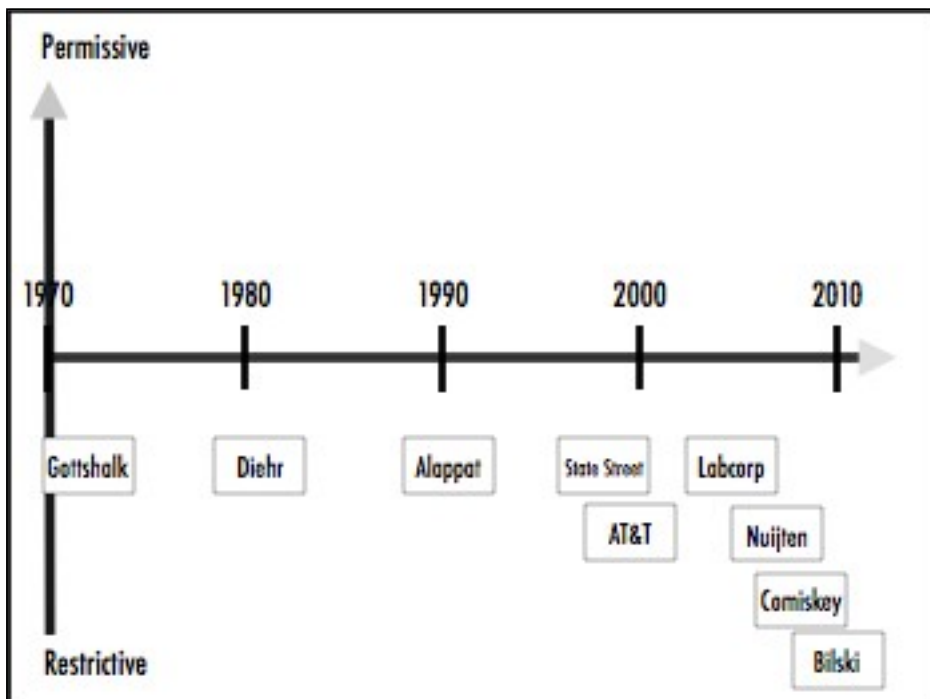
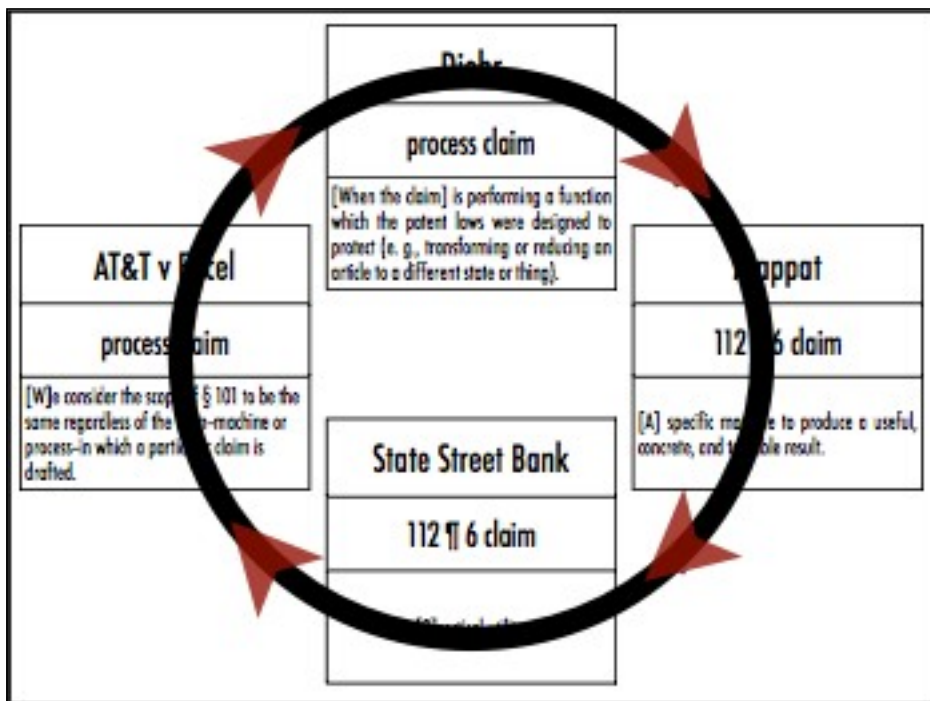


## State Street Bank (1998)

Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"--a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.

Diehr	Alappat	State Street
<p>[W]hen a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e. g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.</p>	<p>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.</p>	<p>The question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to —process, machine, manufacture, or composition of matter—but rather on the essential characteristics of the subject matter, in particular, its practical utility.</p>

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PTO Examiner	BPAI	Fed Cir
Unpatentable under § 101:  not directed to "technological arts"	Unpatentable under § 101:  no physical transformation  not a "useful, concrete and tangible result"	Unpatentable under § 101:  claim does not involve "a machine or transformation"  machine-or-transformation is "sole test" for abstract ideas

## Bilski v Kappos (USSC 2010)

1009  
OCTOBER TERM, 2010  
1

*Bilski*

2010. Where a broadly written business method claim is directed to a process, it is patentable under § 101, even if the claim is directed to a process that is not a technological art.

**SUPREME COURT OF THE UNITED STATES**

*Bilski*

**BILSKI ET AL. v. KAPPOS, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DEPUTY PATENT AND TRADEMARK OFFICE**

ON WRIT OF HABEAS CORPUS FOR APPEAL FROM THE FEDERAL CIRCUIT

No. 09-1523. Argued November 9, 2010.—Decided June 29, 2010.

Patentable patent applications under processes for a financial transaction that require less information to create and allow in the same manner as a patent, or hedge against the risk of price changes. The business method is a series of steps including how to hedge the risk, and create a value, given the data it inputs into a single mathematical formula. The remaining steps include how to create a value to be applied to other steps, and how to create a value to be applied to other steps, and how to create a value to be applied to other steps.

The patent application rejected the application on the grounds that the invention is not implemented as a specific apparatus, merely recites steps or abstract ideas, and claims a purely mathematical formula. The Board of Patent Appeals and Inventions agreed and affirmed. The Patent Office, in turn, affirmed. The circuit court affirmed the patent office's decision, and affirmed the Board's decision. The circuit court affirmed the patent office's decision, and affirmed the Board's decision. The circuit court affirmed the patent office's decision, and affirmed the Board's decision.

**Held:** The judgment is affirmed.

Bilski's claims are unpatentable abstract ideas



MOT test is not the "exclusive test," but a useful and important clue



MOT test may not be useful for "inventions in the information age," (though no suggestion for the correct test)



Business methods are not categorically excluded from patentability



The Federal Circuit ~~could~~ craft rules that exclude most / many business methods



Methods of doing business are ~~not~~ patentable subject matter



MOT test is not the "exclusive test," but not many processes lie beyond its reach



**What is animating the hostility  
towards business method patents?**

[... and is § 101 the best tool? ]

## **post-Bilski**

Many Courts and the USPTO are relying heavily on the MOT test  
[is this faithful to Bilski?]

The Federal Circuit has not yet spoken on the issue  
[ Will they develop a new test? ]

**NEXT CLASS**

**THE UTILITY REQUIREMENT**

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**PATENT LAW & POLICY**  
**PROFESSOR WAGNER**

