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# Patentability of CII in the United States

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# Legal Test

## 35 U.S.C. § 101 – Inventions Patentable

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 therefor, subject to the conditions and requirements of this title.

## *Bilski v. Kappos*, 561 U.S. 593, 601 (2010)

Recognizing three judicial exceptions to patent eligibility from precedent:

- Laws of Nature
- Physical phenomena, and
- Abstract ideas

Abstract ideas exception is the one most commonly applied to CII

Held Unpatentable – Patent covering a method of hedging risk in the field of commodity trading

## Two-Step *Alice* Test

*Alice Corp. Pty. v. CLS Bank Int'l*, 573 U.S. 208, 217–18 (2014)

Step 1: “First, we determine whether the claims at issue are **directed to** one of those patent-ineligible concepts.”

Step 2: “If so, we then ask, what else is there in the claims before us?”

“To answer that question, we consider the elements of each claim both **individually and as an ordered combination** to determine whether the additional elements transform the nature of the claim into a patent-eligible application.

We have described step two of this analysis as a search for an **inventive concept**—i.e., an element or combination of elements that is sufficient to ensure that the patent in practice amounts to **significantly more** than a patent upon the ineligible concept itself.”

# | Applications of Two-Step Test

# Alice

*Alice Corp. Pty. v. CLS Bank Int'l*,  
573 U.S. 208 (2014)

Fundamental economic and conventional business practices merely applied on a computer are not patentable.

Patent covered mitigating settlement risk in financial transactions by using a computer system as a third-party intermediary

Supreme Court held unpatentable:

Step 1: Claims directed to “intermediated settlement,” which was a fundamental economic practice and an abstract idea.

Step 2: No inventive concept or something “significantly more” than the abstract idea.

“[T]he mere recitation of a **generic computer** cannot transform a patent-ineligible abstract idea into a patent-eligible invention.”

“[A]pply it with a computer” is not enough. *Id.*

A method of exchanging obligations as between parties, each party holding a credit record and a debit record with an exchange institution, the credit records and debit records for exchange of predetermined obligations, the method comprising the steps of:

- (a) creating a shadow credit record and a shadow debit record for each stakeholder party to be held independently by a supervisory institution from the exchange institutions;
- (b) obtaining from each exchange institution a start-of-day balance for each shadow credit record and shadow debit record;
- (c) for every transaction resulting in an exchange obligation, the supervisory institution adjusting each respective party's shadow credit record or shadow debit record, allowing only these transactions that do not result in the value of the shadow debit record being less than the value of the shadow credit record at any time, each said adjustment taking place in chronological order; and
- (d) at the end-of-day, the supervisory institution instructing ones of the exchange institutions to exchange credits or debits to the credit record and debit record of the respective parties in accordance with the adjustments of the said permitted transactions, the credits and debits being irrevocable, time invariant obligations placed on the exchange institutions.

# Electric Power

*Elec. Power Grp., LLC v. Alstom S.A.*,  
830 F.3d 1350 (Fed. Cir. 2016)

Mere data manipulation is not patentable, even if limited to a particular technological field.

Federal Circuit held unpatentable:

Step 1: Claims directed to the abstract idea of “collecting information, analyzing it, and displaying certain results” (i.e., **Collecting, analyzing and displaying data**).

Step 2: No inventive concept. “[L]imiting the claims to the **particular technological environment** of power-grid monitoring is, without more, insufficient.”

Claims did not “require a new source or type of information, or new techniques for analyzing it.”

A method of detecting events on an interconnected electric power grid in real time over a wide area and automatically analyzing the events on the interconnected electric power grid, the method comprising:

receiving a plurality of data streams, each of the data streams comprising sub-second, time stamped synchronized phasor measurements wherein the measurements in each stream are collected in real time at geographically distinct points over the wide area of the interconnected electric power grid, the wide area comprising at least two elements from among control areas, transmission companies, utilities, regional reliability coordinators, and reliability jurisdictions;

receiving data from other power system data sources, the other power system data sources comprising at least one of transmission maps, power plant locations, EMS/SCADA systems;

receiving data from a plurality of non-grid data sources;

detecting and analyzing events in real-time from the plurality of data streams from the wide area based on at least one of limits, sensitivities and rates of change for one or more measurements from the data streams and dynamic stability metrics derived from analysis of the measurements from the data streams including at least one of frequency instability, voltages, power flows, phase angles, damping, and oscillation modes, derived from the phasor measurements and the other power system data sources in which the metrics are indicative of events, grid stress, and/or grid instability, over the wide area;

displaying the event analysis results and diagnoses of events and associated ones of the metrics from different categories of data and the derived metrics in visuals, tables, charts, or combinations thereof, the data comprising at least one of monitoring data, tracking data, historical data, prediction data, and summary data;

displaying concurrent visualization of measurements from the data streams and the dynamic stability metrics directed to the wide area of the interconnected electric power grid;

accumulating and updating the measurements from the data streams and the dynamic stability metrics, grid data, and non-grid data in real time as to wide area and local area portions of the interconnected electric power grid; and

deriving a composite indicator of reliability that is an indicator of power grid vulnerability and is derived from a combination of one or more real time measurements or computations of measurements from the data streams and the dynamic stability metrics covering the wide area as well as non-power grid data received from the non-grid data source.



# Enfish

*Enfish, LLC v. Microsoft Corp.*,  
822 F.3d 1327 (Fed. Cir. 2016)

Improvements to computer technology are patentable, even if based in software.

Patent covered computer technique for a “self-referential” database.

Federal Circuit held patent eligible at *Alice*’s step one:

Step 1: “Software can make non-abstract **improvements to computer technology** just as hardware improvements can, and sometimes the improvements can be accomplished through either route.”

“[W]e find it relevant to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea.”

“[T]he plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.”

“The specification also teaches that the self-referential table **functions differently than conventional** database structures.”

A data storage and retrieval system for a computer memory, comprising:

means for configuring said memory according to a logical table, said logical table including:

a plurality of logical rows, each said logical row including an object identification number (OID) to identify each said logical row, each said logical row corresponding to a record of information;

a plurality of logical columns intersecting said plurality of logical rows to define a plurality of logical cells, each said logical column including an OID to identify each said logical column; and

means for indexing data stored in said table.

SELF-REFERENTIAL TABLE						
ID	Type	Title	Label	Address	Employed By (#4)	Author
#1	DOCUMENT	PROJECT PLAN		C:\WORD\PROJ.DOC		#2
#2	PERSON		SCOTT WLASCHIN		#3	
#3	COMPANY		DEXIS	117 EAST COLORADO		
#4	FIELD		EMPLOYED BY			

# DDR

*DDR Holdings, LLC v. Hotels.com, L.P.*,  
773 F.3d 1245 (Fed. Cir. 2014)

Claims patentable when directed to solving an “internet-centric” problem in a specific way that produces “a result that overrides the routine and conventional sequence of events.”

Patent directed to the problem of retaining web traffic while providing convenient links to third-party websites. Created composite sites that retained the host website’s “look and feel” while providing the third-party information.

Federal Circuit held patent eligible at *Alice*’s step one:

Step 1: “[T]he claims address a business challenge (retaining website visitors) [that is] particular to the internet.”

Solved that internet-centric problem in a specific way that “overr[ode]” the “routine, conventional functioning of Internet hyperlink protocol”

An e-commerce outsourcing system comprising:

- a) a data store including a look and feel description associated with a host web page having a link correlated with a commerce object; and
- b) a computer processor coupled to the data store and in communication through the Internet with the host web page and programmed, upon receiving an indication that the link has been activated by a visitor computer in Internet communication with the host web page, to serve a composite web page to the visitor computer wit[h] a look and feel based on the look and feel description in the data store and with content based on the commerce object associated wit[h] the link.

This is the host website. It contains content from a number of other websites (see box with red lettering, below), along with the host’s own content. But the content of the other websites is accessed by users without their browser’s seeming to leave the host website. The “look and feel” presented here is that of the host.

*This is the content of the third party’s website. The third party’s content will appear unchanged on the host website. The user will not be aware that the content is being imported from a different webpage. It will seem as if this material is part of the host webpage. The “look and feel” presented here is that of the third party.*

This is the host webpage again, at the host website. It will have links permitting the user to make a purchase from the host of the items advertised on the third party’s website (at left), like this: “Click here to buy this item via the host. Thank you for visiting

host!” (If a purchase is made, the transaction will be processed through the host.)

# Data Engine

*Data Engine Techs. LLC v. Google LLC*,  
906 F.3d 999 (Fed. Cir. 2018)

Claims patentable when directed to a GUI that rendered complex electronic spreadsheets more accessible.

Federal Circuit held patent eligible at *Alice*'s step one:

Step 1: “[R]epresentative claim 12 of the 259 patent is not directed to an abstract idea. Rather the claim is directed to a specific method for navigating through three-dimensional electronic spreadsheets.”

The claims required “a specific interface and implementation” and solved a “known technological problem in computers” of spreadsheets not being user friendly, requiring users to “search through complex menu systems to find appropriate commands to execute simple computer tasks.”

The solution was “providing a highly intuitive, user-friendly interface with familiar notebook tabs for navigating the three-dimensional worksheet environment.” This was an **“improvement in computer spreadsheet functionality.”**

In an electronic spreadsheet system for storing and manipulating information, a computer-implemented method of representing a three-dimensional spreadsheet on a screen display, the method comprising:

displaying on said screen display a first spreadsheet page from a plurality of spreadsheet pages, each of said spreadsheet pages comprising an array of information cells arranged in row and column format, at least some of said information cells storing user-supplied information and formulas operative on said user-supplied information, each of said information cells being uniquely identified by a spreadsheet page identifier, a column identifier, and a row identifier;

while displaying said first spreadsheet page, displaying a row of spreadsheet page identifiers along one side of said first spreadsheet page, each said spreadsheet page identifier being displayed as an image of a notebook tab on said screen display and indicating a single respective spreadsheet page, wherein at least one spreadsheet page identifier of said displayed row of spreadsheet page identifiers comprises at least one user-settable identifying character;

receiving user input for requesting display of a second spreadsheet page in response to selection with an input device of a spreadsheet page identifier for said second spreadsheet page;

in response to said receiving user input step, displaying said second spreadsheet page on said screen display in a manner so as to obscure said first spreadsheet page from display while continuing to display at least a portion of said row of spreadsheet page identifiers; and

receiving user input for entering a formula in a cell on said second spreadsheet page, said formula including a cell reference to a particular cell on another of said spreadsheet pages having a particular spreadsheet page identifier comprising at least one user-supplied identifying character, said cell reference comprising said at least one user-supplied identifying character for said particular spreadsheet page identifier together with said column identifier and said row identifier for said particular cell.



# IBM

*International Business Machines Corp. v. Zillow Grp.*,  
50 F.4th 1371 (Fed. Cir. 2022) (Stoll, J., dissenting)

Dispute between majority and dissent were regarding claims that were alleged to be a technical improvement in GUIs, providing a layered data display tool that allowed a user to re-layer and re-match the objects in a given layer to emphasize or de-emphasize different objects.

Majority held ineligible:

Step 1: “[D]irected to the abstract idea of organizing and displaying visual information”

Step 2: No inventive concept because **could be “performed by hand**, though more slowly”: “purely functional steps . . . [that] could be done using paper and ink and have long been done by cartographers,” with only “generic computer components” and non-specific functional descriptions.

Dissent would have held that complaint and attached **expert declaration** preclude 12(c) dismissal, as they described the problems in the art and solution with benefits, which the dissent would have held sufficient to show “a **technical improvement in how a user interacts with a computer via a [GUI].**”

A method of displaying layered data, said method comprising:

selecting one or more objects to be displayed in a plurality of layers;

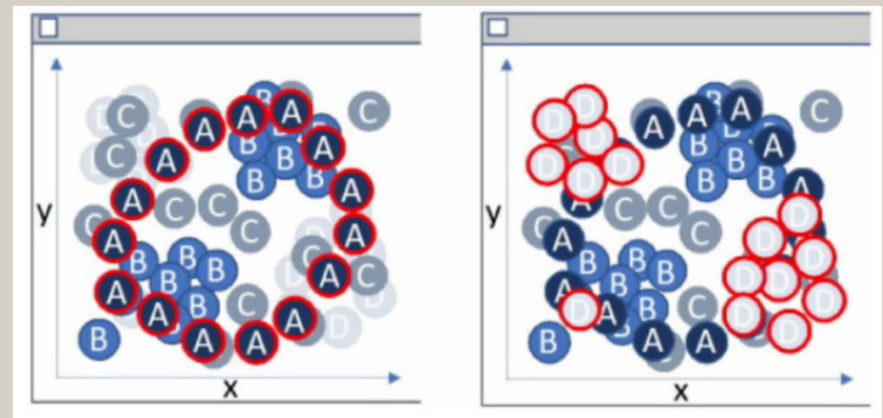
identifying a plurality of non-spatially distinguishable display attributes, wherein one or more of the non-spatially distinguishable display attributes corresponds to each of the layers;

matching each of the objects to one of the layers;

applying the non-spatially distinguishable display attributes corresponding to the layer for each of the matched objects;

determining a layer order for the plurality of layers, wherein the layer order determines a display emphasis corresponding to the objects from the plurality of objects in the corresponding layers; and

displaying the objects with the applied non-spatially distinguishable display attributes based upon the determination, wherein the objects in a first layer from the plurality of layers are visually distinguished from the objects in the other plurality of layers based upon the non-spatially distinguishable display attributes of the first layer.



# Weisner

*Weisner v. Google LLC*,  
51 F.4th 1073 (Fed. Cir. 2022) (Hughes, J., dissenting)

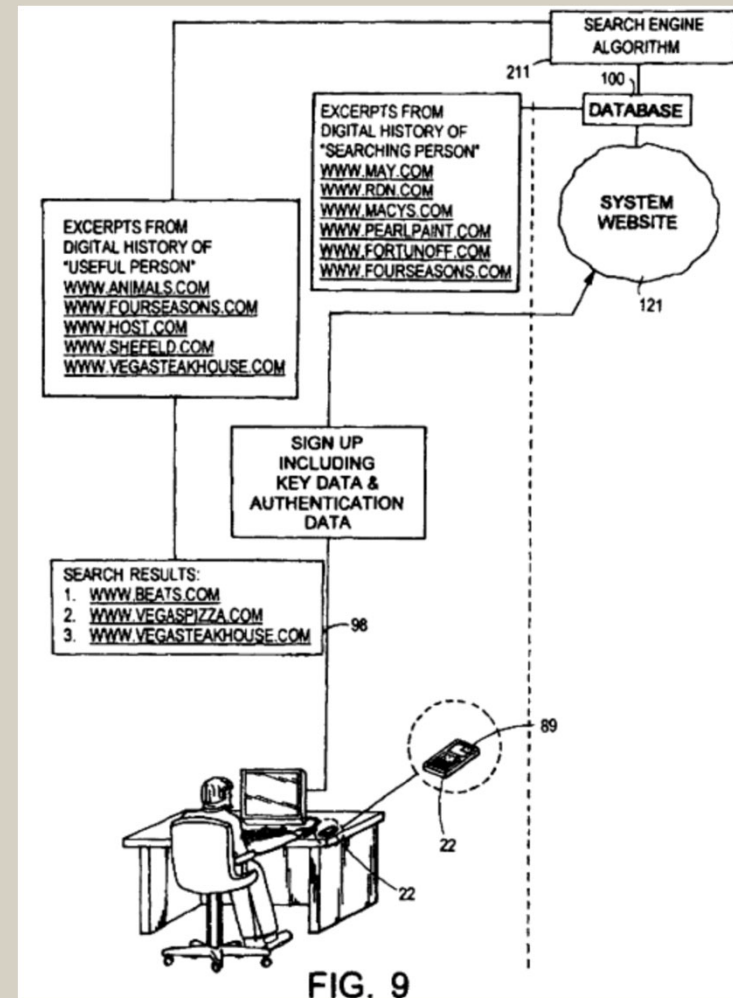
Claims directed to using a generic computer to create a digital travel log were unpatentable, but claims directed to a specific method of improving internet searches using a location history were patentable. Dissent would have held all claims unpatentable.

Majority held eligible at step 2:

Step 1: Claims directed to “creating and using travel histories to improve computerized search results.”

Step 2: Plausibly allege **specific implementation** (“useful person”) that solved a **problem unique to the internet** (non-personalized searches).

Dissent would have held all claims unpatentable because patent admitted using standard “search algorithm,” and thus, apart from the abstract idea, only conventional methods were used. And the **problem solved was a business problem** (better recommendations), not an internet-centric problem.



# Weisner Claim Language

In an electronic spreadsheet system for storing and manipulating information, a computer-implemented method of representing a three-dimensional spreadsheet on a screen display, the method comprising:

displaying on said screen display a first spreadsheet page from a plurality of spreadsheet pages, each of said spreadsheet pages comprising an array of information cells arranged in row and column format, at least some of said information cells storing user-supplied information and formulas operative on said user-supplied information, each of said information cells being uniquely identified by a spreadsheet page identifier, a column identifier, and a row identifier;

while displaying said first spreadsheet page, displaying a row of spreadsheet page identifiers along one side of said first spreadsheet page, each said spreadsheet page identifier being displayed as an image of a notebook tab on said screen display and indicating a single respective spreadsheet page, wherein at least one spreadsheet page identifier of said displayed row of spreadsheet page identifiers comprises at least one user-settable identifying character;

receiving user input for requesting display of a second spreadsheet page in response to selection with an input device of a spreadsheet page identifier for said second spreadsheet page;

in response to said receiving user input step, displaying said second spreadsheet page on said screen display in a manner so as to obscure said first spreadsheet page from display while continuing to display at least a portion of said row of spreadsheet page identifiers; and

receiving user input for entering a formula in a cell on said second spreadsheet page, said formula including a cell reference to a particular cell on another of said spreadsheet pages having a particular spreadsheet page identifier comprising at least one user-supplied identifying character, said cell reference comprising said at least one user-supplied identifying character for said particular spreadsheet page identifier together with said column identifier and said row identifier for said particular cell.



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**Naveen Modi** is the Global Co-Chair of the Intellectual Property group at Paul Hastings, overseeing the firm's Global Intellectual Property group consisting of more than 100 attorneys.

Mr. Modi's practice covers all aspects of high stakes IP-related legal work, including litigation before federal district courts, the U.S. International Trade Commission, and federal appeals courts; post-grant proceedings, interferences and derivation proceedings before the Patent Trial and Appeal Board (PTAB); arbitrations; and due diligence and client counseling. He has led "bet-the-company cases" involving patents, trademarks, trade secrets, and copyright issues. He has represented both companies accused of infringement and those whose IP has been infringed in a wide range of technical areas, including electronics, software, business methods, medical devices, chemicals, pharmaceuticals, and biotechnology.

## Representative Experience

- Representation of a variety of companies in IP matters over the years, including **Acorda, Applied Materials, Alkermes, AT&T, Boeing, Boehringer Ingelheim, BioMarin Pharmaceutical, Boston Scientific, Capital One, Canon, Chevron, Corelogic, Daiichi Sankyo, eBay, Eisai, Eli Lilly, Fitbit, Google, Helsinn, HTC, Illumina, Insys, JSR, L'Oréal, Medtronic, Merck, Mitek, Opinion Lab, PayPal, Samsung, SAP, Snap, Taiwan Semiconductor Manufacturing Company (TSMC), TikTok, Uber, Walgreen, Wintek, and Zimmer Biomet.**
- *Infineum USA L.P. v. Chevron Oronite LLC.* Representation of **Chevron** in district court litigation in Delaware, in IPRs, and appeals to Federal Circuit and Supreme Court involving oil lubrication technology.
- Representation of **Google** in numerous post-grant proceedings, including inter partes review and post-grant review.
- *Evrythng Limited v. Avery Dennison.* Representation of **Evrythng** in litigations in New York and Massachusetts and in IPRs involving software and patent, trademark, trade secret, and breach of contract issues.
- *Exactech, Inc. v. Zimmer Biomet et al.* Representation of **Zimmer Biomet** in litigations in California and Florida involving medical devices and patent, trade secret, copyright infringement, and breach of contract issues.
- *Liqwd, Inc. v. L'Oréal USA, Inc.* Representation of **L'Oréal** in litigations in Delaware and California involving hair products and patent, trade secret, and breach of contract issues.
- *Elm 3DS Innovations, LLC v. Samsung Electronics Co., LTD.* Representation of **Samsung** in a patent litigation in Delaware and IPRs involving semiconductor technology.
- *University of Western Australia v. Academisch Ziekenhuis Leiden.* Representation of **BioMarin** in Federal Circuit Appeals.

## Awards & Accolades

- Ranked in Band 1 by *Chambers USA*
- *The Legal 500's* Leading Lawyer for Intellectual Property - Patents: Litigation; Intellectual Property - Patents: Litigation (International Trade Commission); and Dispute Resolution - Appellate: Courts of Appeals
- *Managing Intellectual Property*, Outstanding IP Litigator of the Year - PTAB
- *Managing Intellectual Property*, IP Star
- *Law360*, IP MVP and Legal Lion
- *IAM Global Leaders*
- *IAM Patent 1000*, Leading Patent Practitioner
- *LMG Life Sciences Awards*, Post Grant Proceedings Attorney of the Year
- *LMG Life Sciences*, IP Star
- Outstanding 50 Asian Americans in Business
- Washington D.C. Super Lawyer
- Received the George Mason University School of Law Alumni Association Scholarship

## Involvement

- Member, Advisory Council, U.S. Court of Appeals for the Federal Circuit
- Member, GW's IP Advisory Council (IPAC)
- Past-President & Member, PTAB Bar Association
- Member, Federal Circuit Bar Association
- Member, American Intellectual Property Law Association
- Served as a law clerk to the Honorable Alvin Anthony Schall at the U.S. Court of Appeals for the Federal Circuit, 2002-2003

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