35 USC 101 Subject Matter Eligibility Cases – 2021 Update

In the initial 2018 publication, eligible and ineligible Court of Appeals for the Federal Circuit (CAFC) cases were described along with practice hints on how to be consistent with the eligible cases and distinguish the ineligible cases. The 2020 Update, provided (1) additional assessments of CAFC cases issued after the 2018 publication; (2) a grouping of selected PTAB opinions that apply the USPTO's 2019 Subject Matter Eligibility Examination Guidance (the "USPTO Guidance"); and (3) an updated "Mappings" tab with a mapping for each new CAFC and PTAB case assessment as well as comparisons to the USPTO Guidance for patent eligibility considerations. This 2021 Update provides assessments of CAFC cases issued in the past year and provides assessments of PTAB cases decided after publication of the USPTO Guidance and having patent claims on appeal directed to Artificial Intelligence technologies. Certain PTAB cases in which the board affirmed the Examiner's rejection of the A.I. related claims were still assessed and added to this 2021 Update to provide patent practioners with relevant practice tips and takeaways.

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Introduction

Overview: In 2014, the U.S. Supreme Court decided Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347, which dealt with whether patent claims directed to a computer-implemented scheme for mitigating "settlement risk" were patent eligible under 35 U.S.C. §101, or were instead drawn to a patent-ineligible abstract idea. The Court found that the claims were drawn to the abstract idea of intermediated settlement, and that merely requiring generic computer implementation failed to transform that abstract idea into a patent-eligible invention.

This document provides a digest of the current patent eligibility Federal Circuit caselaw in the wake of Alice from a software related inventions perspective. This December 2021 update provides (1) additional assessments of Federal Circuit cases applying the Alice test that have issued since the 2020 publication of this document; and (2) a grouping of selected PTAB opinions that apply the USPTO's 2019 Subject Matter Eligibility Examination Guidance (the "USPTO Guidance").   For the 2021 Update, a focused search of PTAB opinions was conducted to identify PTAB opinions (both reversing and affirming Examiner's subject matter eligibility rejections) that related to A.I. technologies in order to provide additional practical tips on preparing patent applications that avoid 35 USC 101 rejections. The Mappings sheet has been updated to include a mapping for each new Federal Circuit and PTAB case assessment, including a column indicating USPTO examples that are directed to similar software related technology as covered by the respective mapped case. The Mappings sheet also now has several columns comparing decisions to the USPTO Guidance for Alice Step 2A Prong 1 abstract ideas and Prong 2 considerations. Note that while PTAB cases have generally followed the USPTO guidelines, the Federal Circuit has expressly stated that they are not bound by the USPTO Guidance and its adaptation of the Alice test for subject matter eligibility. In particular, the Federal Circuit in In re Rudy stated that "[w]e are not ... bound by the Office Guidance, which cannot modify or supplant the Supreme Court's law regarding patent eligibility, or our interpretation and application thereof." (Citing In re Rudy, 956 F.3d 1379, 1383 (Fed. Cir. April 24, 2020). However, the Federal Circuit still concluded "that although a portion of the Board's analysis is framed as a recitation of the Office Guidance [i.e., no finding of a practical application of the claimed abstract idea], in this particular case the Board's reasoning and conclusion are nevertheless fully in accord with the relevant case law." (Id. at 1384).

As a result, recent decisions have found slight discrepancies between the analysis performed by the USPTO and the Federal Circuit. Once an abstract idea is found, the USPTO under the new guidelines focuses more on the presence of a "practical application" under Step 2A Prong Two and largely avoids discussions of an "inventive concept" under the second step of Alice. In contrast, the Federal Circuit is more likely to move directly to "inventive concept" and rest its decision on patentability there, with practical application concerns folding into the existing Alice framework. In many cases this appears to be a distinction without a difference, but the differing approaches may require different treatment, briefing, and patent drafting to best survive scrutiny in both prosecution and litigation.

Thus, while prosecuting cases, one would be wise to utilize the included practice tips associated with each individual decision sheet to best ensure you are drafting claims that align with recent decisions at both the Federal Circuit and the USPTO. The Mappings sheet can be used to find the decision sheets most relevant to the claims you are prosecuting,

asserting, challenging, or litigating.

Also note that while this document attempts to address current software-related decisions, the update does not address Rule 36 summary affirmances, which may include affirmances of Section 101 decisions made by district courts, given that these decisions present no independent analysis by the Federal Circuit.

Discussion: The constitutional basis for the patent system is in Article I, Section 8, Clause 8 of the U.S. Constitution, which states that "[c]ongress shall have the power… [t]o promote the progress of science and *useful arts* , by securing for limited times to authors and *inventors* the exclusive right to their respective writings and *discoveries* " (emphasis added). Of particular note in this passage is that there is no mention of business methods or "abstract ideas."

Congress:
The Patent Act states that "[w]hoever 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." Therefore, the code establishes broad categories of patent protection -- processes, machines, manufacture, or composition of matter.

The Patent Act expands on what is "new" in §§ 102 and 103. For example § 102 prohibits patenting of inventions that were previously disclosed or patented, identically, by others (i.e., requiring novelty in view of the prior art) and §103 prohibits patenting of inventions that were previously disclosed or patented, with only obvious differences, by others (i.e., requiring non-obviousness in view of the prior art). Moreover, § 112 of the Patent Act provides additional conditions and requirements with regard to clarity and specificity.

The America Invents Act (AIA) touched on patent eligibility concerns by providing additional mechanisms to challenge issued patents at the USPTO. For example, the Covered Business Method (CBM) proceeding was a transitional program that sunset on September 16, 2020 and provided the ability to challenge business method patents at the PTO based on, for example, subject matter eligibility, novelty, obviousness, clarity/specificity. The AIA also includes Post Grant Review (PGR) and Inter Partes Reexamination (IPR) as other administrative options for challenging patent validity. PGR and IPR challenges are not limited to business method patents. The AIA provisions of CBM, PGR and IPR do not mention the concept of "abstract ideas."

Courts:
State Street Bank -- In *State Street Bank & Trust Co. v. Signature Fin. Grp.,* 149 F.3d 1368 (Fed. Cir. 1998), the court considered whether claims directed to pooling the assets of mutual funds were directed to statutory subject matter. The court took an expansive view of § 101, stating that "[t]he plain and unambiguous meaning of § 101 is that any invention

falling within one of the four stated categories of statutory subject matter may be patented, provided it meets the other requirements for patentability set forth in Title 35, i.e., those found in §§ 102, 103, and 112." *Id* . at 1372. The court ultimately found that the claims were patent eligible because they produced a useful, concrete and tangible result.

Mayo -- Following the *State Street Bank* decision, filings for business method patents experienced an uptick in the USPTO. In *Mayo Collaborative Services v. Prometheus Laboratories* , Inc., 132 S. Ct. 1289 (2012), the Court considered the eligibility of patent claims covering processes that help doctors who use thiopurine drugs to treat patients with autoimmune diseases determine whether a given dosage level is too low or too high. The Court articulated a two-step framework in which it is first determined whether the claims at issue are directed to a patent-ineligible concept (i.e., law of nature, natural phenomena, or abstract ideas). If so, the Court then asks whether the claim's elements, considered both individually and as an ordered combination, transform the nature of the claim into a patent-eligible invention. The Court determined that the claimed processes were natural laws that had not been transformed into patent eligible applications of those laws.

Alice -- The Court applied the two step framework of Mayo to claims directed to using a third-party intermediary to mitigate settlement risk in *Alice Corp. Pty. Ltd. v. CLS Bank Int'l* , 134 S. Ct. 2347 (2014). The Court found that, under the first step of the Mayo framework, the claims were directed to the abstract idea of intermediated settlement. The Court also found that the claims failed under step two of the Mayo framework as not transforming the nature of the claim into a patent-eligible application. More particularly, the Court described step two as a search for an "inventive concept." *Id* . at 2355 (citing *Mayo*).

With respect to the case law on patent subject matter eligibility, we note that the lineage for the term "abstract idea" from Alice is: *Alice* (US 2014) -> *Myriad* (US 2012) -> *Diehr* (US 1981) -> *Rubber Tip Pencil* (US 1874) and *Le Roy* (US 1853). For example, in *Rubber Tip* , the Court held that "[e]verybody **knew** " the idea and in *Le Roy* , the Court noted that "if the principle is stated to be applicable to any special purpose, so as to produce any result **previously unknown** , in the way and for the objects described, the patent is good. It is no longer an abstract principle."

Berkheimer - The Federal Circuit's decision in *Berkheimer v. HP Inc.* , 881 F.3d 1360, 1370 (Fed. Cir. 2018) likely had the most dramatic impact on patent subject matter eligibility law since the Supreme Court's introduction of the two step eligibility framework test in *Alice* and *Mayo.* As discussed in further detail in this document under the case digest for *Berkheimer* , while confirming that "patent eligibility is ultimately a question of law," the Federal Circuit held that "[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field [under step two of the *Alice* test] is a question of fact." *Id* . at 1368. Ultimately, the Court found that, when there is an issue of material fact when addressing this Alice step two inquiry, this issue cannot be decided on summary judgment as a matter of law.

USPTO's 2019 Subject Matter Eligibility Examination Guidance (the "USPTO Guidance"): As of the effective date of January 7, 2019, the USPTO Guidance revised the procedures for determining whether a patent claim or patent application claim is directed to a judicial

exception (laws of nature, natural phenomena, and abstract ideas) under Step 2A of the Court's *Alice* test as set forth in the USPTO's Guidance in two ways." 84 Fed. Reg. 50, Pg. 50 (Jan. 7, 2019). First, under a prong 1 of Step 2A, the USPTO Guidance "explains that abstract ideas can be grouped as, e.g., mathematical concepts, certain methods of organizing human activity, and mental processes" as extracted and synthesized from Federal Circuit and Supreme Court decisions. Id. at 50, 52-53. Second, under prong 2 of Step 2A, the USPTO Guidance explains that a patent claim or patent application claim that recites a judicial exception is not "directed to" the judicial exception if the judicial exception is integrated into a practical application of the judicial exception. Id. at 50, 54-55. A claim that recites a judicial exception, but is not integrated into a practical application, is directed to the judicial exception under Step 2A of the *Alice* test and must then be evaluated under Step 2B (inventive concept) to determine the subject matter eligibility of the claim. Id. at 50, 55-56. The USPTO Guidance supports this clarification of the *Alice* test for these three categories of "abstract ideas" with claim examination examples corresponding to Federal Circuit and Supreme Court decisions. Id. at 55-56.

As of Nov. 30, 2021, the US Supreme Court declined to hear any Federal Circuit patent eligibility cases this past year. However, one significant patent eligibility case is still pending before the Court - *American Axle* (Am. Axle & Mfg., Inc. v. Neapco Holdings LLC, 966 F.3d 1347, 1348 (Fed. Cir. 2020)). As assessed in this 2021 Update, the Federal Circuit found that American Axle's patent claim for a method of manufacturing a drive shaft assembly was "directed to utilization of a natural law...in a particular context" that is an ineligible concept under the Alice/Mayo test. In her dissent in American Axle, Judge Moore describes the overreaching of the majority in finding the claim to be directed to a law of nature, and further concluded that applying the "nothing more" standard creates confusion - "[e]very mechanical invention must apply the laws of physics—that does not render them all ineligible, or maybe it does now. Section 101 simply should not be this sweeping and this manipulatable." Although the American Axle case is not directed to a software related invention, if the US Supreme Court grants American Axle's petition for writ of certiorari, the Court has the opportunity to clarify the Alice/Mayo test for subject matter eligibility.

Instructions

Mappings: The mappings table can be used to quickly index into the Federal Circuit and PTAB caselaw analysis on the basis of technology (i.e., position in the software stack) or legal issue. Simply selecting the case name will jump you to the relevant portion of the discussion.

Legend for "Tribunal" column: Provides filtering between Federal Circuit cases ("CAFC") and PTAB cases.

Legend for "Eligibility" column:
"Y" - Federal Circuit or PTAB found all claims on appeal eligible under Alice Test or USPTO 2019 Guidance.
"N" - Federal Circuit or PTAB found all claims on appeal eligible under Alice Test or USPTO 2019 Guidance.
"Y & N" - Federal Circuit or PTAB found certain claims on appeal eligible under Alice Test or USPTO 2019 Guidance and other claims ineligible under the same test or for other reasons.
"N/A" - Federal Circuit found certain claims directed to abstract idea under step 1 of Alice Test but remanded for lower court factual inquiry on step 2 of Alice for "inventive concept".
"Probably Not" - See relevant case assessment for further explanation.

Legend for "AI/Machine Learning" column: "X" denotes that asserted patents in Federal Circuit or PTAB cases has claims directed to an aspect of Artificial Intelligence (e.g., AI Machine Learning).   You'll find that only one PTAB case was identified as having AI related claims.   But more AI related patents are likely to be appealed to the PTAB and Federal Circuit in the future.

Legend for "Guidelines examples" column:
Provides closest USPTO Guideline examples to the software technology covered in the patent applications reviewed by the applicable Federal Circuit or PTAB panel. See link below to "USPTO Guidelines Index To Examples" to access referenced examples. If this cell is left blank or "N/A", no USPTO Guideline examples were found to be applicable.

Judge Tracker: The judge tracker table provides an eye chart of judges that were involved in each Federal Circuit decision.

PTAB Decisions: The tabs for the summaries of the relevant PTAB decisions follow the Federal Circuit case tabs.

This document was prepared by IPO's Software-Related Inventions committee.

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Additional information:

USPTO Subject Matter Eligibility Guidelines Site: https://www.uspto.gov/patent/laws-and-regulations/examination-policy/subject-matter-eligibility

USPTO Guidelines Index To Examples: https://www.uspto.gov/sites/default/files/documents/ieg-example-index.pdf

Case	Tribunal	Decision Date	Eligible?	Case Opinion Before/After Publication of USPTO 2019 SME Guidelines	Software Category						USPTO Guideline Examples	Directed To (Alice Step 1)	USPTO 2019 SME Guidelines - Revised Alice Step 2A				Revised Alice Step 2B	Procedural Considerations	Contributor
					User Interface	Data Structure	Data Transfer/ Network Transfer	AI / Machine Learning	Data Storage	Data Processing/Other			Prong One			Prong Two	Inventive Concept (Alice Step 2)		
													Mathematical Concept	Mental Processes	Certain Methods of Organizing Human Activity	Integrated Into Practical Application			
Aatrix (data processing system for designing, creating, and importing data into a viewable form)	CAFC	2/14/2018	Y	Before	X	X					2, 34	"Like many claims that focus on software innovations, [claim 1] is a system claim [directed to] a data processing system which clearly requires a computer operating software, a means for viewing and changing data, and a means for viewing forms and reports. This is very much a tangible system." *Aatrix,* 882 F.3d 1121 at 1125. Fed. Cir. ruled that "district court erred in holding claim 1 ineligible because it was directed to intangible matter [i.e., abstract idea of collecting and organizing data] and should have instead performed an Alice/Mayo analysis of claim 1...and the remaining claims." *Id*. 1125-26. Thus, although Fed. Cir. found that Alice/Mayo could be resolved at step 1 (i.e., not abstract but "a tangible system"), also looked to Alice step 2 in to find "inventive concept" elements.					The claimed inventions "allowed data to be imported from an end user application without needing to know proprietary database schemas and without having to custom program the form files to work with each outside application." Aatrix, 882 F.3d 1121 at 1127. And also, "permit data to be retrieved from a user application and inserted into a form, eliminating the need for hand typing in the values and eliminating the risk of transcription error." *Id*.	Fed. Cir. 2018, appeal from M.D. Florida - vacated the district court's motion to dismiss based on every claim being ineligible under under 35 USC 101, reversed its denial of Aatrix's motion for leave to file a second amended complaint, and remanded for further proceedings	Burton
Amdocs (distributed networking enhancement of network accounting records)	CAFC	11/1/2016	Y	Before		X		X	X		2, 34	Held as directed to abstract idea of "correlating two network accounting records to enhance the first record". This was not refuted by the appeals court.					Claim entails an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases.	Appeal from US District Court for ED Virginia - Reversed and Remanded	Brink
Ameranth (information management and synchronous communications system for generating and transmitting menus)	CAFC	11/29/2016	N	Before						X	2, 23, 37	PTAB: generating a second menu from a first menu and sending the second menu to another location/CAFC: the ability to generate menus with certain features.		X		No	Nothing significantly more - "claims the addition of conventional computer components to well-known business practices"	Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board CBM decision of ineligibility	Forrest
American Axle	CAFC	10/3/2019	N	After						X	N/A	The claims are "directed to the utilization of a natural law (here, Hooke's law and possibly other natural laws) in a particular context."				No	"The claimed advance is simply controlling various known characteristics." Direction "to engage in a conventional, unbounded trial-and-error process does not make a claim patent eligible invention, even if the desired result ... would be new and unconventional."	Appeal from the United States District Court for the District of Delaware	Moore
Ancora Technologies	CAFC	11/16/2018	Y	Before					X		27	Claims are directed to an improvement in computer functionality that has specificity required to transform a claim from one claiming only a result to one claiming a way to achieve it.					N/A	Appeal from Western District of Washington	Bednarz
Automated Tracking Sols.	CAFC	7/30/2019	N	After						X	36	The asserted claims in this case relate to processes and systems to perform the functions of "identification, tracking, location, and/or surveillance of tagged objects anywhere in a facility or area" for inventory control.			X	No	Fed Circuit found that "claim elements [viewed] individually or as an ordered combination...do not contain an inventive concept sufficient to confer patent eligibility."	Appeal from Northern District of Georgia	Burton

Case	Court	Date									Claims	Step 1				Holding	Step 2	Appeal From	Judge
BASCOM (distributed networking based content filters)	CAFC	6/27/2016	Y	Before		X	X				2, 34	"Claims and their specific limitations do not readily lend themselves to a step-one finding that they are directed to a nonabstract idea" in contrast to Enfish.				Yes	"an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces"	Appeal from US District Court for ND Texas- Granted Motion to Dismiss is Vacated and Remanded	Brink
Berkheimer (storing object structures with reduced redundancy)	CAFC	2/14/2018	Y	Before			X		X		2, 34	Claims 1–3 and 9 are directed to the abstract idea of parsing and comparing data; claim 4 is directed to the abstract idea of parsing, comparing, and storing data; and claims 5–7 are directed to the abstract idea of parsing, comparing, storing, and editing data. Resolved under Alice step 2 with respect to dependent claims 4-7.					Claims 1-3 and 9 do not capture the purportedly inventive concepts. "Claims 4-7, in contrast, contain limitations directed to the arguably unconventional inventive concept [of] storing object structures in the archive without substantial redundancy [, which] improves system operating efficiency and reduces storage costs." *Berkheimer v. HP Inc* ., 881 F.3d 1360, 1370 (Fed. Cir. 2018).	Fed. Cir. 2018, appeal from N.D. Illinois - affirmed indefiniteness of claims 10-19 and claims 1–3 and 9 are ineligible under Alice test; but vacated grant of summary judgment that dependent claims 4–7 are ineligible under § 101 because there is a fact question as to whether the claims 4-7 "contain limitations directed to the arguably unconventional inventive concept described in the specification"	Burton
BSG (considering historical usage information while inputting data)	CAFC	8/15/2018	N	Before	X				X		N/A	The district court concluded that the asserted claims "are directed to the abstract idea of considering historical usage information while inputting data."			X	No	The Court held that the claims lack an inventive concept sufficient to transform them into patent-eligible subject matter. The recitation of a database structure slightly more detailed than a generic database does not save the asserted claims at step one.	Appeal from the United States District Court for the Eastern District of Texas	Moore
Cardionet (an improved cardiac monitoring device)	CAFC	4/17/2020	Y	After					X		4, 40	Directed to an improved cardiac monitoring device and not to an abstract idea.				Yes	N/A	Appeal from the United States District Court for the District of Massachusetts	George
Cellspin Soft	CAFC	6/25/2019	N/A	After			X				N/A	"The asserted claims are drawn to the [abstract] idea of capturing and transmitting data from one device to another."			X	No	Fed Circuit held the district court erred in its step two analysis by not considering the ways the invention was alleged to be unconventional.	Appeal from the United States District Court for the Northern District of California	Drachtman
Chamberlain (movable barrier operator system)	CAFC	8/21/2019	N	After					X	8, 21, 40, 41	"the broad concept of communicating information wirelessly, without more, is an abstract idea."	X			No	With respect to Step 2, the court found that the claims didn't include any inventive concept beyond the excluded abstract idea.	Appeal from the United States District Court for the Northern District of Illinois	George
ChargePoint (adding networking capability to the charging station)	CAFC	3/28/2019	N	After			X				1, 2, 40	the claim is directed to the abstract idea of communication over a network for device interaction	X			No	The court said that the only inventive concept is the abstract idea itself.	Appeal from the United States District Court for the District	Forrest

Case	Court	Date	Col1	Timing	Col2	Col3	Col4	Col5	Col6	Col7	Claims	Step One / Abstract Idea	Col	Col	Col	Step Two / Eligibility	Procedural Posture	Judge
Classen (method of determining whether an immunization schedule affects the incidence or severity of a chronic immunemediated disorder in a treatment group)	CAFC	8/31/2011	Y & N	Before						X	40	Collecting and comparing known information		X		No	Claims that only provide the information were not eligible. Claims that implement an immunization schedule were eligible.	Appeal from the United States District Court for the District of Maryland on Summary Judgment	Forrest
Core Wireless	CAFC	1/25/2018	Y	Before	X						22, 23, 37	The Federal Circuit found that the claims were directed an "improved user interface," a non-abstract idea, rather than the abstract idea of an index. Specifically, the claims were "directed to a particular manner of summarizing and presenting information in electronic devices."				The court concluded that the claims an improvement to computer technology because they improved the ability of a user to use the computer.	Fed.Cir. 2018 appeal from ED Texas – Affirmed denial of LG's motion for summary judgement under 35 USC 101 and for JMOL that claims are anticipated and not infringed	George
CosmoKey	CAFC	10/4/2021	Y	After	X		X			X	N/A	Majority Opinion: The claims are directed to the abstract idea of verifying identity to permit access to transaction. Concurring Opinion: The claims are directed to "a specific improvement to authentication that increases security, prevents unauthorized access by a third party, is easily implemented, and can advantageously be carried out with mobile devices of low complexity" and are, therefore, patent eligible.				Majority Opinion: "[T]he claims recite an inventive concept by requiring a specific set of ordered steps that go beyond the abstract idea identified by the district court and improve upon the prior art by providing a simple method that yields higher security" Concurring Opinion: N/A	Appeal from District Court of Delaware	Moore
Customedia (data delivery system for providing automatic delivery of multimedia data products from one or more multimedia data product providers)	CAFC	3/6/2020	N	After						X	7, 8, 36, 41	The claims are directed to data management and processing systems. "The claims of the '090 and '494 patents do not enable computers to operate more quickly or efficiently, nor do they solve any technological problem. They merely recite reserving memory to ensure storage space is available for at least some advertising data.	X			No	No - "the claims recite only generic computer components, including a programmable receiver unit, a storage device, a remote server and a processor."	Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board	Forrest
CxLoyalty, Inc.	CAFC	2/8/2021	N	After	x					x	7, 8	The Federal Circuit agreed with the PTAB that the claims "amount[s] to a fundamental economic practice long preva-lent in commerce"			x	No	Nothing else in the claims to transform the abstract idea into a patent eligible concept.	CXLoyalty appealed PTAB decision. Maritz cross-appealed both the Board's determination that the '087 patent is eligible for CBM review and the Board's ruling as to the original claims. CAFC did not review cross-appeal	Bonner
CyberSource (obtaining IP addresses of credit card transactions to detect fraud)	CAFC	8/16/2011	N	Before	X					X	7, 35	Focusses on machine or transformation. Correlating credit card numbers with IP addresses to detect fraud		X		No	Claims were interpreted very broadly and could be performed by a human mind - mental process.	Appeal from the United States District Court for the Northern District of California Summary Judgment of ineligibility	Forrest
Data Engine Technologies LLC	CAFC	10/9/2018	Y & N	Before	X						23, 37	Claims are directed to a specific and particular manner of navigating a three-dimensional spreadsheet that improves the efficient functioning of computers.				N/A		Appeal from District Court of Delaware	Bednarz

Case	Court	Date									Claims	Abstract Idea					Step 2 Notes	Appeal	Author
[DDR Holdings]	CAFC	12/5/2014	Y	Before	X	X					1, 34, 40	Cited several abstract ideas proposed by both parties and the dissent, but did not settle on one. Resolved at Step 2.				X	Clicking on a link to a vendor website from a host website results in the creation of a hybrid page that shows vendor content in a look and feel of the host website containing the link.	Fed.Cir. 2018 appeal from ED of Texas - Affirmed. Denial of JMOL appealed. Reviewed de novo.	Forrest
[Digitech] (a device profile and a method of generating a device profile)	CAFC	7/11/2014	N	Before	X	X				X	3, 5	A data structure	X			No	Not tangible - cites Nuijten	Appeal from the United States District Court for the Central District of California Summary Judgment of ineligibility	Forrest
[Electric Power] (real-time performance monitoring of an electric power grid)	CAFC	8/1/2016	N	Before	X					X	40	Collecting, displaying, and analyzing information		X		No	Did not go beyond the abstract idea	Appeal from C.D. California - Decided August 1, 2016	Forrest
[Enfish] (self-referential database)	CAFC	5/12/2016	Y	Before		X		X			34	The Federal Circuit held that the claims are not directed to an abstract idea and that the 101 inquiry must consider whether the claims' "character as a whole is directed to excluded subject matter." The Court then stated, "[w]e do not read Alice to broadly hold that all improvements in computer-related technology are inherently abstract" and noted that software can "make non-abstract improvements to computer technology just as hardware improvements can" under *Alice*.				N/A Step 2 not reached given determination that claims recite eligible subject matter.	N/A Step 2 not reached given determination that claims recite eligible subject matter.	Appeal from Central District of California reversing summary judgment finding all claims invalid as ineligible under 101.	Kukkonen
[Exergen] (detecting human body temperature)	CAFC	3/8/2018	Y	Before				X			N/A	The asserted claims employ a natural law to achieve their purpose [as] the claims recite a 'method of detecting human body temperature' and 'a body temperature detector				Yes	The Court held that the claimed measurement method "was not conventional, routine and well-understood" as supported by the specification.	Appeal from District Court of Massachusetts	Burton
[Fairwarning] (detecting improper access of a patient's protected health information (PHI) in a computer environment)	CAFC	10/11/2016	N	Before				X			40	Collecting, analyzing and providing a notification		X		No	Sending a notification is not significantly more. An old practice in a new environment.	Appeal from Appeal from the United States District Court for the Middle District of Florida	Forrest
[Finjan] (behavior based virus scanning)	CAFC	1/10/2018	Y	Before		X	X				1, 40, 41	A method of providing computer security by scanning a downloadable and attaching the results of that scan to the downloadable itself in the form of a "security profile."				Yes	A security profile identifies code in an inspector received downloadable that performs hostile or potentially hostile operations. The security profile is linked the downloadable before the downloadable is made available to web clients.	Fed.Cir. 2018 appeal from ND Cal. - Jury Decision Affirmed	Forrest
[Free Stream Media]	CAFC	5/11/2021	N	After		X						The Federal Circuit found the claims were directed to the abstract idea of targeted advertising.			X	N/A	Nothing else in the claims to transform the abstract idea into a patent eligible concept.	Appeal from Northern District of California	Drachtman
[Glasswall Solutions Limited]	CAFC	12/20/2018	N	Before				X			34	Claims are directed to comparing a file's content to a set of rules, extracting confirming data, and then duplicating the conforming data.			X		Claims do not amount to anything more than an instruction to apply the abstract idea of filtering nonconforming data and regenerating a file without it.	Appeal from Western District of Washington	Bednarz

Case	Court	Date		Before/After						No.	Description						Inventive Concept	Appeal	Judge
iLife Tech	CAFC	1/13/2021	N	After					X	20	The claimed technology "is directed to a motion detection system that evaluates relative movement of a body based on both dynamic acceleration (e.g., vibration, body movement) and static acceleration (i.e., the position of a body relative to earth)" but abstract since claim failed "to provide any concrete detail for performing the associated functions [and] merely amounts to a system capable of sensing information, processing the collected information, and transmitting processed information"		X (Court found claim limitations merely sensing, analyzing, and transmitting processed information)				Claim did not have an inventive concept sufficient to transform the claims into patent-eligible subject matter under Alice step two, ruling that "the claim recites only generic computer components, including a sensor, a processor, and a communication device," which the decription of these elements in the specification "confirms they are generic."	Appeal from Northern District of Texas	Burton
In re Downing	CAFC	12/7/2018	N	Before					X	35	Claims are directed to concept of personal management, resource planning, or forecasting.		X (collecting, analyzing, and displaying information* - court referred to mental processes, but this is traditionally known as certain methods of organizing human activity)				Only generic computer components	Appeal from PTAB	Bednarz
In re Gale	CAFC	5/18/2021	N	After		X			X	42	Claims are directed to the abstract idea of (1) collecting information (here, receiving messages and reading their metadata), (2) analyzing the information (here, calculating a usage pattern and determining its compliance with a predetermined usage pattern), and (3) reporting the results.			X (PTAB identified claimed method steps as method of organizing human activity).			Only additional element beyond the abstract idea is a generic computer system to perform the method, the use of which is well-understood, routine, and conventional	Appeal from PTAB	Burton
In re Gitlin	CAFC	6/13/2019	N	After					X	N/A	Claim recited a mathematical algorithm.	X				No	Merely calling for a mathematical algorithm to be performed more efficiently or with a particular input is not patent eligible.	Appeal from examination.	Kiklis
In re Villena	CAFC	8/29/2018	N	Before					X	7	The claims are directed to the concept of property valuation, and "a fundamental economic practice long prevalent in our system of commerce."			X (fundamental economic practice)			No inventive concept - abstract idea on a computer.	Appeal from PTAB	Bednarz
In re Wang	CAFC	6/20/2018	N	Before			X			6	Not a physical or tangible thing and not a process as things are simply being defined and not acted upon.		X			No	Claims a set of phonetic symbols where each sound is uniquely represented by one or more letters - "e" for bed.	Non-precedential. Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. 13/219,680.	Forrest
Interval Licensing	CAFC	7/20/2018	N	Before	X					37	"providing information to a person without interfering with the person's primary activity,"			X		No	Placing an abstract idea on a computer is not an inventive concept.	Appeal from judgment on the pleadings.	Kiklis
Int. Ventures (2015)	CAFC	7/6/2015	N	Before	X				X	1, 7	Three patents in different fields. See case tab.			X		No	No technology based problem and solution.	Appeal from the United States District Court for the Eastern District of Virginia Summary Judgment finding of invalidity based on claim construction	Forrest

Case	Court	Date									Claims	Description							Appeal From	Judge
Int. Ventures (2017)	CAFC	11/3/2017	N	Before	X					X	8, 34	Remotely accessing and retrieving user specified information			X		No		The claim lacked detail of how high level functions were done.	Appeal from the United States District Court for the Western District of Pennsylvania Motion to Dismiss	Forrest
Koninklijke (error checking in data transmission)	CAFC	11/15/2019	Y	After			X			X	3, 4, 23, 37, 40	The Fed. Circ. held that claims 2-4 are patent-eligible under Alice Step 1 because "they are directed to a non-abstract improvement in an existing technological process (i.e., error checking in data transmission)."					N/A		N/A	Appeal from the United States District Court for the District of Delaware	Moore
McRO (set of phoneme sequence rules that define an output morph weight set stream)	CAFC	9/13/2016	Y	Before	X						3, 5, 39	The Federal Circuit found that the "specific structure of the claimed rules would prevent broad preemption of all rules-based means of automating lip-synchronization, unless the limits of the rules themselves are broad enough to cover all possible approaches." According to the Federal Circuit, the "limitations in claim 1 prevent preemption of all processes for achieving automated lip-synchronization of 3-D characters." The Federal Circuit thus held the representative claim was not directed to an abstract idea, and thus did not meet Alice step one, thereby ending the inquiry.							N/A Step 2 not reached given determination that claims recite eligible subject matter.	Appeal from Central District of California reversing grant of judgment on the pleadings	Kukkonen
Mentone Solutions LLC	CAFC	11/15/2021	Y	After			X				40	Claim is directed to a patent eligible improvement to computer functionalit, namely permitting additional multislot configurations for certin classes of mobile stations using extended bandwidth allocation.					N/A		N/A	Appeal from the District Court of Deleware (Non-Precedential)	Forrest
Mortgage Application Tech	CAFC	01/12/2021	N	After						X		The Federal Circuit found the claims were directed to the abstract idea of information exchange which can be performed by a human.					N/A		Nothing else in the claims to transform the abstract idea into a patent eligible concept.	Appeal from Central District of California	Drachtman
MyMail, LTD	CAFC	08/19/2021	N	After	X		X					Claims "are directed to updating toolbar software over a network without user intervention" and that "[t]his amounts to no more than invoking computers as a tool to perform the abstract ideas of collecting information, analyzing information, and presenting the results of the analysis in the software update context."			X		N/A		No inventive concept sufficient to transform the nature of the claims into a patent-eligible application. Added limitations did not change the claims' focus on the abstract idea of updating toolbar software over a network without user intervention.	Appeal from Northern District of California	Bonner
Packet Intelligence	CAFC	7/14/2020	Y	After			X				40	Claim is directed to a packet monitor for examining packets passing through a connection point on a computer network and, therefore, patent-eligible.					N/A		N/A	Appeal from the United States District Court for the Eastern District of Texas	Moore
PersonalWeb Technologies LLC v. Google LLC	CAFC	8/12/2021	N	After				X	X	N/A		Claims are directed to the use of an algorithm-generated contentbased identifier to perform the claimed data-management functions, which across the three patents include controlling access to data items (the '310 patent), retrieving and delivering copies of data items (the '280 patent), and marking copies of data items for deletion (the '662 patent).			X		N		No, the improvements set forth simply restate the abstract idea.	Appeal from the United States District Court for the Northern District of California	Moore

Case	Court	Date						Claims							Appeal	
SIPCO (low-power, limited transmission range communication device)	CAFC	9/25/2019	Y	Before		X		8, 21, 40, 41	The Court found that SIPCO's patent was directed to a technical invention because "the claimed invention implements a communication system that connects an unconnected, remote device with a central station."				Yes	N/A	Appeal from the United States Patent and Trademark Office	George
Solutran (method for processing paper checks)	CAFC	7/30/2019	N	After			X	N/A	The claims are directed to the abstract idea of crediting a merchant's account as early as possible while electronically processing a check.			X	No	The claims "simply instruct the practitioner to implement the abstract idea with routine, conventional activity."	Appeal from the United States District Court for the District of Minnesota	Drachtman
SRI International	CAFC	3/20/2019	Y	After			X	1, 2, 40	"The claims are directed to using a specific technique—using a plurality of network monitors that each analyze specific types of data on the network and integrating reports from the monitors—to solve a technological problem arising in computer networks: identifying hackers or potential intruders into the network."		X		Yes	N/A	Appeal from the United States District Court for the District of Delaware	Forrest
TecSec	CAFC	10/23/2020	Y	After		X		41	The Federal Circuit found the claims were not directed to an abstract idea because they contained technical limitations, such as "object-oriented key manager" and specified uses of a "label" in addition to encryption. The court reviewed the specification and found that the claims are "directed to solving a problem specific to computer data networks." And the court concluded "[i]n light of what the claim language and specification establish, we conclude that the claims are directed to improving a basic function of a computer data-distribution network, namely, network security."				N/A	N/A	Appeal from a summary judgment ruling finding the claims eligible at the district court.	Kiklis
Trading Technologies (2017)	CAFC	1/18/2017	Y	Before	X			22, 23, 37	The Federal Circuit found that "the patents describe a trading system in which a graphical user interface 'display[s] the market depth of a commodity traded in a market'" including various static and dynamic displays and this graphical user interface solves "'problems of prior graphical user interface devices...relating to speed, accuracy and usability.'" Further, the Federal Circuit found that "the challenged patents do not simply claim displaying information on a graphical user interface" but rather "require a specific, structured graphical user interface paired with a prescribed functionality directly related to the graphical user interface's structure that is addressed to and resolves a specifically identified problem in the prior state of the art."					The Federal Circuit found that "the static price index as an inventive concept" that permits more efficient and accurate trade placement when using electronic trading systems. In addition, Federal Circuit found that the claimed trading system presents "specific technologic modifications to solve a problem or improve the functioning of a known system."	Fed.Cir. 2017 appeal from ND Ill. – Affirmed. Non-Precedential	George
Trading Technologies (2019)	CAFC	4/30/2019	N	After	X			N/A	"the focus of the claimed advance over the prior art" is providing a trader with additional financial information to facilitate market trades			X	No	The abstract idea cannot provide the inventive concept. The claims merely added additional data to a prior art user interface.	Appeal from a CBM	Kiklis
U of Florida	CAFC	2/26/2019	N	After			X	40	"collecting, analyzing, manipulating, and displaying data."	X			No		Precedential - Appeal from the United States District Court for the Northern District of Florida	Forrest

Case	Court	Date	Y/N	Before/After	C6	C7	C8	C9	C10	C11	No.	Description	C14	C15	Analysis	Analysis Text	Inventive Concept	Appeal Info	Judge
Veripath	CAFC	02/08/2021	N	After	X					X	35	Granting permission to access personal information in exchange for enhanced functionality via the API, a routine piece of software.			X (no true analysis)	No analysis.	Lacked an inventive concept sufficent to convert the abstract concept into a patent-eligible application.	VeriPath appealed from a decision of the S.D. of New York.	Bednarz
Visual Memory	CAFC	8/15/2017	Y	Before			X		X		27	The court found that the claims were directed to a technological improvement: an enhanced computer memory system.					The court concluded that the claims were not directed to an abstract idea, and thus did not analyze the claims under step two of the Alice test.	Fed. Cir. 2017. Appeal from U.S. District Court for District of Delaware. Reversed - Claims were directed to an improvement to computer memory systems and not directed to an abstract idea.	Bednarz
Voit (buying and selling an item relating to unique subjects)	CAFC	2/8/2019	N	After						X	7, 8	entering, transmitting, locating, compressing, storing, and displaying data (including text and image data) to facilitate the buying and selling of items.			X	No	Directed to the abstract idea of processing data to buy and sell items.	Non-precedential. Appeal from the United States District Court for the Eastern District of North Carolina	Forrest
Voter Verified	CAFC	4/20/2018	N	Before						X	35	"concept of voting, verifying the vote, and submitting the vote for tabulation"			X	No	lacked an "inventive concept" and that the "standard components" cited in the claims (e.g., "a standard personal computer," "a visual display device," "a keyboard", "data storage devices," "a laser printer," and "a scanner") "are not sufficient to transform abstract claims into patent-eligible subject matter."	Appeal from United States District Court for the Northern District of Florida; also Federal Circuit ruled no issue preclusion since Alice case did not change governing law of § 101 and "§ 101 issue was not actually litigated" since "the § 101 issue of invalidity was not necessary to the judgment in the first district court action.	Burton
Yu v Apple	CAFC	6/11/2021	N	After						X	N/A	The court found the claims directed to the abstract idea of taking two pictures (which may be at different exposures) and using one picture to enhance the other in some way.				No	CAFC concluded that "[b]ecause claim 1 is recited at a high level of generality and merely invokes well-understood, routine, conventional components to apply the abstract idea identified above … claim 1 fails at step two".	from N.D. Cal. - Affirmed The district court granted Apple's motion to dismiss on the basis that the asserted claims were invalid under § 101. The district court held that the asserted claims were directed to the abstract idea of "taking two pictures and using those pictures to enhance each other in some way," and failed	Bailey
PTAB - Ex Parte Adjaoute	PTAB	10/10/2019	Y	After			X				38	The claims recited "monitoring operation of machines using neural networks, logic decision trees, confidence assessments, fuzzy logic, smart agent profiling, and case-based reasoning," which the Board considered to not recite an abstract idea.	No	No	No	Yes - While considered eligible at Prong One, the Board performed Prong Two analysis and concluded that preventative maintenance and predictions of equipment failures are practical applications.	N/A	Appeal from Examiner Rejection	Moore

Case	Tribunal	Date	Eligible	Before/After							Claims	Description				Step 2A Prong Two	Step 2B	Posture	Judge
[PTAB - Ex Parte Allen](#)	PTAB	6/25/2020	N	After				X		X	39	Claims are directed to a hybrid approach for handling hypothetical statements in natural language text parsing that the Board found recite concepts performed in the human mind.		X		No - improvements to NL processing not enough standing alone and would constitute separate abstract idea	No - generic computing machinery and no inventive concept in claims	Appeal from Examiner Rejection	Lowery
[PTAB - Ex Parte Avery](#)	PTAB	7/8/2020	Y	After	X						23	The representative claims "recite a mental process" because the individual claim limitations pertain to either "collecting information, analyzing it, and displaying certain results" or "relates to the judgment of the user which pertains to [a] mental process.		X		Yes - UI limitations of "layering layer over an image" to "easily provide evaluation of the image in two criteria simultaneously by positioning an on screen cursor" provides a specific technological improvement over prior electronic polling GUI.	N/A - Since practical application found in Step 2A, prong 2, Board did not reach this question.	Appeal from Examiner Rejection	Burton
[PTAB - Ex Parte Bakker](#)	PTAB	6/23/2020	N	After				X			29	The claims recite apparatuses for determining whether an anticoagulant should be administered based on a thrombosis risk that include limitations for "calculating an estimation value ...using a generic 'decision support algorithm' as a function of numerical values derived from the input features" that the Board found are directed to an "abstract mathematical calculation that can be performed as a mental process in the human mind"	X	X		No - The Board further found that the claims do not integrate the abstract idea into a practical application because sufficient specificity is not provided in claim 1 to provide meaningful limitations for the calculations. Further, the Board finds that the apparatus is not specific and does not impose meaningful limitations to consider the claim integrated into a practical application.	No - claim does not recite any elements, individually or as an ordered combination, that provide an inventive concept sufficient to transform the abstract idea into patent eligible subject matter.	Appeal from Examiner rejection	Moore
[PTAB - Ex Parte Basham](#)	PTAB	2/24/2020	Y	After			X				27	Board held that claim 2 is not directed to an abstract idea, but rather a specific implementation, including receiving a command, directed to an object, from an application, determining storage for the object in a multi-tiered storage system, and storing the object.	X			N/A	N/A	Appeal from Examiner rejection. The Board reversed the Examiner's 101 rejection and held that the Examiner erred at Step 2A, Prong One in determining that the claims recite an abstract idea. Prong Two and Revised Alice Step 2B not reached.	Bednarz
[PTAB - Ex Parte Betancourt](#)	PTAB	8/30/2019	Y & N	After	X		X				42	Claims are directed to using wireless tags and communication devices to authorize transactions for fuel at service stations			X	Y & N (claims upheld the specified information sent in authorization request for specific amounts of fuel, claims rejected that generically recited transmission of authorization request without specific information)	N (for generic claims)	Appeal from Examiner rejection	Lowery
[PTAB - Ex Parte Bingham](#)	PTAB	03/10/2020	N	After				X			34, 40	A method for identifying network threats	X	X		No	No improvement in computer technology.	Appeal from Examiner rejection.	Bednarz
[PTAB - Ex Parte Boldt](#)	PTAB	2/28/2020	Y	After				X			4, 5	Claims are directed to dynamically splitting PDF print jobs into independent segments to facilitate printing large print jobs	X			Y	Hardware elements that transform data into a concrete result	Appeal from Examiner rejection.	Forrest

Case	Forum	Date									Claims	Description							Outcome	Judge
PTAB - Ex Parte Buijs	PTAB	8/20/2019	Y	After				X		X	42, 43	The claims are directed to "a system and method for determining threshold values or a range of values for a test used to assess the current condition of the patient, the threshold values or range of values being used to allocate patients to an appropriate intensity level of treatment for the current status of the disease for the patient."	X					X	Without being specific as to what "additional element" recited in the appealed claim and described in the specification "amount to significantly more than the abstract idea itself" to meet the criteria for "technical concept" under Alice/Mayo step 2, the PTAB implied that the Examiner did not find any statements in the specification to support that the limitations for the patient information database and processor identified functional limitations were "routine" or "conventional".	Appeal from Examiner rejection.	Burton
PTAB – Ex Parte Bulleit	PTAB	3/9/2020	Y	After			X				5, 7	Claims are directed to using a proactive search engine for providing and displaying a series of links to a plurality of sponsored Web sites, where the proactive search engine is configured to search the Web independent of user key word input as the user device navigates the Internet				X	Y		Use of a proactive search engine is not conventional.	Appeal from Examiner rejection.	Forrest
PTAB - Ex Parte Bush	PTAB	3/10/2020	Y	After			X		X		42	The claims are directed to an abstract process because "[e]ach of the independent claims recite limitations directed to receiving a string of characters and prompting a user to enter a change to a string of characters (data gathering or observation steps), and comparing normalize characters with names of profiles (data analysis or evaluation steps) may be a "mental process" steps.		X		Y - "recite limitations directed to downloading a pump configuration file to the insulin pump and delivering insulin by the insulin pump in accordance with a parameter selected from the downloaded pump configuration file", which integrate the otherwise abstract claim into a practical application that is "an improvement to the operation of the insulin pump (an improvement to a technology)…"		N/A - did not analyze after determining claims directed to a practical application under Step 2A Prong 2	Appeal from Examiner Rejection	Burton
PTAB - Ex Parte Bushmitch	PTAB	3/12/2020	Y	After				X		X	40	The claims are directed to a computer-implemented method directed to "an adaptive learning system that 'can be trained by correlation between a first set of raw technical performance data and a set of actual operational effectiveness assessment data. …Once trained, the adaptive learning system can be deployed,' and, while deployed, 'the adaptive learning system can produce a set of predicted operational effectiveness assessment data from a second set of raw technical performance data"				Y - Board found claims did not fall into any of the Prong One categories but also found claim limitations integrated into a practical application		N/A - did not analyze after determining claims not abstract under any prong one category and integration into practical application was found	Appeal from Examiner Rejection	Burton
PTAB - Ex Parte Campbell	PTAB	2/3/2020	Y	After		X				X	5; 42	The claims are directed to a computer program configured to fill out forms in advance based on known information, including limitations to "receive a plurality of standardized data items from a network service . . . ," "determine that a network page including a web form has been requested . . . ," "receive metadata from a network data service . . . ," "generate a subset of the plurality of requested data items . . . ," and "execute a service call to the data consumer including the subset of [information] . . . ," each of which the Board found "could be performed in the human mind or with the aid of pen and paper."		X		Y - For the eligible claims 8-20, the PTAB found that the claims integrated the abstract idea of a mental process into a practical application with the additional limitation that the computing device would enter data into a form; such additional limitation was not included in the ineligible claims 1-7.		The Board only analyzed claims 1-7 under Alice step 2 for "inventive concept", finding that "the steps beyond the recited abstract idea, such as 'receive [data]' and 'execute a service call . . . including [data],' are directed to insignificant extra-solution activity"	Appeal from Examiner Rejection	Drachtman

Case	Body	Date										Claims	Description								Type	Judge
PTAB - Ex Parte Chari	PTAB	9/10/2020	Y	After				X		X		N/A	The claims are directed to a method for automatically estimating the sensitivity of computer assets, including data gathering that can be performed in the human mind.		X		Yes - the method included a machine learning algorithm trained to analyze data and automatically analyze the sensitivity of data assets. The training of this algorithm to analyze meta data about assets improves the functioning of the computer in specified ways and thus integrate it into a practical application.	N/A	Appeal from Examiner Rejection	Lowery
PTAB - Ex Parte Chaudhuri	PTAB	01/06/2021	N	After						X		3	Mathematical concepts - solving the problem of how to automatically compute a Gaussian bandwidth parameter value to achieve accurate outlier identification results for new observations much faster than previous computerized methods	X			No	No	Appeal from Examiner rejection.	Bednarz
PTAB - Ex Parte Chen	PTAB	04/02/2021	Y	After						X		3, 5	Claim recites a mathematical concept	X			Yes, the method provides a specific improvement over prior methods for analyzing formation tester data over prior linear regression methods and that the method is directed to improved systematic inversion methodology applied to formation testing data as noted in the specification. As made clear in the October 2019 Revised Guidance, the claim does not have recite the improvement described in the specification	N/A	Appeal from Examiner rejection.	Bednarz
PTAB - Ex Parte Codella	PTAB	8/31/2020	N	After				X		X		N/A	The claims are directed to a mathematical process for "generating synthetic data" that is "basically an algorithm comprising a couple of math steps..." and thus abstract under Step 2A Prong 1 of the Guidance.	X			No - no additional elements that improve the technology and Appellant did not show "that the alleged improvement to generating synthetic data points and balancing class distribution changes the manner in which the computer operates or changes the functionality of the computer itself."	No - "the claims at issue do not require any nonconventional computer components, or even a "non-conventional and non-generic arrangement of known, conventional pieces," but merely call for performance of the method "on a set of generic computer components" that do not amount to an inventive concept.	Appeal from Examiner Rejection	Burton
PTAB - Ex Parte Eronen	PTAB	2/24/2020	Y	After	X					X		23, 37	The claims directed to collecting displaying images on touch sensitive displays in a particular manner which did not fit into any of the three categories identified as abstract ideas under Prong One of the Guidance.				N/A - did not analyze after finding claims recite limitations not found in three abstract categories under Prong One of the Guidance.	N/A - did not analyze after finding claims recite limitations not found in three abstract categories under Prong One of the Guidance.	Appeal from Examiner Rejection	Drachtman
PTAB - Ex Parte Fautz	PTAB (Informative)	5/15/2019	Y	After						X		41	The claims recite mathematical concepts and thus abstract ideas under Prong One of the Guidance.	X			Yes - Integrated into MR tomography device and "Appellant is concerned with solving the technical problem of improving sensitivity correction in MR tomography devices"	N/A - did not analyze after integration into practical application was found	Appeal from Examiner Rejection	Lowery

Case	Body	Date	Col	Col	X1	X2	X3	X4	X5	X6	X7	Claims	Description	X8	X9	X10	Analysis	Notes	Type	Judge
PTAB - Ex Parte Forbes	PTAB	09/30/2019	Y	Y				X			X	3	There is an abstract idea found by the Examiner but no analysis provided - skipped.	X			N/A	PTAB found there was not a sufficiently pursuasive citation as required by the Berkheimer memorandum to support Examiner's conclusion that the additional elements were well-understood, routine, and conventional.	Appeal from Examiner rejection.	Bednarz
PTAB - Ex Parte Hannun	PTAB (Informative)	12/11/2019	Y	After					X		X	38, 39	The claims recite specific software steps and do not recite mental processes or methods of organizing human activity. The description of mathematical algorithms in the specification are not relevant because they are not present in the claims.				Yes - any alleged abstract concept integrated into specific features to achieve a technological result of improved speech-to-text recognition.	Allegation of no inventive concept not supported by sufficient evidence from Examiner. PTAB also separately reversed 103 rejection (see detailed analysis).	Appeal from Examiner Rejection	Lowery
PTAB - Ex parte Hayward	PTAB	12/30/2019	Y	Y							x		The PTAB found the claims are directed to generating a decrypted image by decrypting the encrypted image using the cryptographic shader)			x	Yes	N/A	Logic of Bascom was used	Bonner
PTAB - Ex Parte Heinz-Werner Stiller	PTAB	8/3/2021	No	After	X							6, 8, 42	Claims are directed to analyzing medical information and displaying medical information.			X	N - Generic components to perform generic computer functions. Does not improve computer functionality.	No - conventional steps at a high degree of generality.	Appeal from Examiner rejection.	Forrest
PTAB - Ex Parte Henry	PTAB	11/21/2019	Y	After					X		X	39	The claims are not directed to an abstract idea, instead being directed to an ordered combination of rules performed by a computer. (as charactered by the board)					N/A	Appeal f rom Examiner Rejection	Forrest
PTAB - Ex Parte Hsu	PTAB	9/26/2019	Y & N	After							X	40	Claims are directed to using time of day to improve search query results	X	X		Y & N (dependent claims with specific recitations of techniques to improve query results based on specification upheld, generic claims rejected)	N/A	Appeal from Examiner rejection	Lowery
PTAB - Ex Parte Yi Huang	PTAB	06/10/2020	N	Y							X	34	Certain methods of organizing the human activity of commercial interactions of advertising activities and mental processes		X	X	No - claim 1 does not recite features that allegedly improve computer performance and processing of a large number of business rules and the specification did not describe the advancements in databases or software.	No	Appeal from Examiner rejection.	Bednarz
PTAB - Ex Parte Ioffe	PTAB	10/01/2019	N	Y							X	3	Mathematical concepts	X			The PTAB found that the additional elements were (1) receiving the recited training data, (2) receiving the recited query, (3) outputting the recited approximate nearest neighbor, and (4) the computing device that is involved in these steps. The PTAB found that the these additional elements considered individually and in combination with the other limitations did not indicate that the judicial exception has been integrated into a practical application.	No. Use of a computer in a conventional way.	Appeal from Examiner rejection.	Bednarz

Case	Tribunal	Date		Before/After							Claim(s)	Description						Appeal Notes	Judge
PTAB - Ex Parte Ishikawa	PTAB	6/18/2020	N	After						x	N/A	No - claim 1 is directed to an abstract idea, and does not focus on any improvement to technology and/or a technical field		x	x	No - claim 1 does not contain an element that imposes a meaningful limit on the abstract idea that integrates the abstract idea into a practical application.	No - Enfish preemption argument also failed	Appeal from Examiner's rejection.	Bonner
PTAB - Ex Parte Kavis	PTAB	12/2/2019	N	After						X	7	The Board held that the claimed limitations recite the mental process of comparing coupon data because the claims include an observation, an evaluation, and judgment by receiving data, sending the data, and comparing the data to determine whether the coupon is fraudulent. The Board also held that the claims are directed to a method of organizing human behavior because the claims recite commercial or legal interactions.		X	X	N	N	Appeal from Examiner rejection. The Board reversed the Examiner's 101 rejection for failure to explain which abstract idea the claims were directed to and then entered its own 101 rejection.	Kiklis
PTAB - Ex parte Kerns	PTAB	9/19/2019	N	After			x	x		x	4, 24	CLaims are directed to information indicating the maintenance activity requirement to a user	x	x		N - claims are directed to the abstract idea of assessing a structural load of an aircraft by calculating a response load as a result of a ground or flight event, using mathematical concepts (i.e., a machine learning algorithm and a structural dynamics model), wherein the machine learning algorithm accounts for errors in the input data recorded by sensors.	N - Due to the lack of detail provided in the Specification regarding structural dynamics models, we understand that Appellant relies on the general knowledge of one skilled in the art to understand and employ well-known structural dynamics models, as claimed.	Appeal from Examiner Rejection	Bonner
PTAB - Ex Parte Kim	PTAB	7/24/2019	Y & N	After						X	38	Claims are directed to using vector quantization to decode audio data for output	X	X		Y & N (method claims rejected, device claims upheld)	N	Appeal from Examiner rejection	Lowery
PTAB - Ex Parte Kimizuka	PTAB (Informative)	5/15/2019	N	After						X	36 (Claim 1)	The claims are directed to mental processes that could be practically performed in the human mind of collecting data and making relevant determinations based on the data.		X		No - processor, database, and measuring steps insufficient to render practical application	No - same steps were well-known, routine, and conventional	Appeal from Examiner Rejection	Lowery
PTAB - Ex Parte Yifang Liu	PTAB	6/26/2020	Y	Y				X			39	Mathematical concepts according to the board. The examiner found the abstract concept to be collecting an analyzing information re Electric Power.	x			Yes - the inclusion of a machine learning system to solve a technical problem in the field of machine learning systems - optimizing accuracy.	N/A	Appeal from Examiner Rejection.	Forrest
PTAB - Ex Parte Lundgren	PTAB (Presidential)	4/20/2004	Probably Not	Before						X	35, 36	The claims are directed to a method of compensating a manager		X	X	No computer involved	No	Appeal from examiner rejection based on Technological arts requirement. No such test.	Forrest
PTAB - Ex Parte Martin	PTAB	12/9/2019	Y	After			X				42	The Board found that the claims were not directed to an abstract idea because the claims include, for example, "scanning a document . . . using a second document processing device," "identifying, using said second document processing device, said lab test . . . based only on said machine readable code" and various other actions using the second document processing device.				N/A	N/A	Appeal from Examiner rejection Prong One, Prong Two, and Revised Alice Step 2B not reached after Alice Step 1 assessment.	Kiklis

Case	Body	Date									Claims	Holding						Appeal Type	Judge
PTAB - Ex Parte Mazur	PTAB	12/31/2020	N	After				X			N/A	The Board held that the claims were direct to an abstract idea of "to account cycle dates or end dates of an account cycle, such as monthly account closing dates" and, more particularly, "to selecting and optimizing account cycle dates."		X	X	N	N	Appeal from Examiner rejection	Moore
PTAB - Ex Parte Milne	PTAB	12/9/2019	N	After		X					N/A	The Board held that sharing content among two or more persons fits into the abstract idea category of "managing personal behavior or relationships or interactions between people."			X	N	N	Appeal from Examiner rejection	Kiklis
PTAB - Ex Parte Olson	PTAB (Informative)	3/25/2019	Y	After					X	41	The claims contain mathematical concepts used to map the coordinate position of the catheter tool onto a three dimensional image.	X			Yes - algorithms are used in particular way to improve catheter system and integrated into a particular machine in the catheter navigation system	N/A	Appeal from Examiner Rejection	Lowery
PTAB - Ex Parte Pan	PTAB	10/29/2020	N	After							N/A	The Board held that the claims were directed to the abstract idea of a "hierarchical electronic content distribution system."		X		N - the "'hierarchical content distribution network' just refers to the path by which information is shared in a social network, and the graph data structure is just an abstract representation of that path."	N	Appeal from Examiner rejection	Moore
PTAB - Ex Parte Rajasekharan	PTAB	12/24/2020	N	After			X		X	39	The claims are directed to a method of organizing human activity in evaluating digital asset performance for branding or marketing purposes.		X		No - the additional limitations are generic computer recitations or functions implemented at a high level of generality	No inventive concept	Appeal from Examiner rejection.	Lowery
PTAB - Ex Parte Roberts	PTAB	10/23/2020	N	After			X			6, 8, 42	The claims are directed to a method of organizing human activity by receiving customer support requests and using a mathematical model to determine whether or not to dispatch a technician.		X		No - the additional limitations are "no more than recitation of ubiquitous structure recited at a high level of generality…"	N/A	Appeal from Examiner rejection.	Forrest
PTAB - Ex Parte J. Rogers	PTAB	05/04/2020	y	Y	X					23, 37	A machine implemented process of updating media item recommendations displayed on a user interface, responsive to a user's interaction with the interface - the recommendation updating process - that cannot be practically performed in the human mind.				N/A	N/A	Appeal from Examiner rejection.	Bednarz
PTAB - Ex Parte T. Rogers	PTAB	8/23/2019	Y	After				X		4	Claims are not directed to abstract idea of storing data more efficiently by having multiple file entries in a file allocation table index the same clusters on a storage medium.

Steps 2A, Prongs 1 and 2 and Revised Alice Step 2B not reached after Alice Step 1 assessment. | | | | N/A | N/A | Appeal from Examiner rejection. | Moore |
| PTAB - Ex Parte Sakahashi | PTAB | 4/23/2020 | Y | After | X | | | | X | 3, 5 | Claims are directed to "system for the production, creation, generation, management, and utilization of two-dimensional ("2D") barcodes featuring embedded images" that included limitations the board found "can be thought of as mathematical manipulation of data (i.e., mathematical concepts)" | X | | | The Board reversed the Examiner's § 101 rejection of the claims finding that "claim 1 recites a specific improvement in a practical application" such that "the claimed system permits the combination of a 2D barcode with an image without impacting the utility of the 2D barcode." | N/A | Appeal from Examiner rejection. | Burton |

Case	Body	Date											
PTAB - Ex Parte Savescu	PTAB (Informative)	4/1/2019	N	After		X		42 (Claim 2)	The claims contain project management concepts regarding workflow tracking that correspond to methods of organizing human activity			X	No - server and web page creation insufficient to render practical application	No - server and web page were well-known, routine, and conventional	Appeal from Examiner Rejection	Lowery
PTAB - Ex Parte Shady	PTAB	7/31/2020	N	After	X		X	N/A	The claims are directed to calculating the expected success rate for a business entity suring a computing device.	X	X		No - very general claim terms	No - generic computing elements that are well-known, routine, and conventional	Appeal from Examiner Rejection	Moore
PTAB - Ex Parte Singh	PTAB	09/28/2020	N	Y			X	39	Mental process - interpreting natural language instructions and generating a programmatic interpretation of the instructions		X		No	PTAB indicated that the specification's broad disclosure of suitable automated speech recognition systems is at a high level that shows that suitable technologies were well-understood, routine, or conventional.	Appeal from Examiner rejection.	Bednarz
PTAB - Ex Parte Smith	PTAB (Informative)	2/1/2019	Y	After			X	42 (Claim 1)	The claims contain derivative trading steps found in any derivatives market, which are fundamental economic practices			X (fundamental economic practice)	Yes - timing mechanism for orders sufficient to create practical application	N/A	Appeal from Examiner Rejection	Lowery

Case	Body	Date									Claim Description				Analysis			Appeal	Judge
PTAB - Ex Parte Taylor	PTAB	12/06/2019	Y	Y				X		X	39	Process that uses algorithms to analysis (sic) video and audio data to train a classification model that is then used to analyze additional data to detect potential bias by human evaluators				N/A	N/A	Appeal from Examiner rejection.	Bednarz
PTAB - Ex Parte Vdovina	PTAB	7/24/2019	Y & N	After				X		3	Claims are directed to manipulating and using seismic data.	X	X		No - claims 1 and 11 use the output of the mathematical concepts in a model, which is itself mathematical concept. Yes - claims 15 and 16 produce an image of a subsurface region and drill a well, respectively, which are practical applications.	N/A	Appeal from Examiner rejection.	Moore
PTAB - Ex Parte Vela	PTAB	8/19/2019	Y	After				x		N/A	Mathematical Concept	x			Yes. The PTAB agreed with the Examiner regarding Step 1 and Step 2A(1). Regarding Step 2A(2), the PTAB found a practical application. "Put another way, correcting the data and applying the corrected data to the forecast model is not abstract in the same way as the other claim recitations. Moreover, these additional limitations also provide a "technological solution to a technological problem," MPEP § 2106.05(a) because they recite a specific solution to the technical problem of anomalous data points and their deleterious effect on the forecast model and resultant network resource utilization." The PTAB concluded that the claim limitations integrate the recited judicial exception of a mathematical concept into a practical application that provides "an improvement to the technical field of operating mobile networks by allowing network operators to better forecast potential network problems using corrected data sets." The case was eventually allowed by the USPTO.	N/a	Appealed from Examiner's rejection.	Bonner

Case	Forum	Date										Description							Appeal	Judge
PTAB - Ex Parte Wolfe	PTAB	9/2/2020	N	Y				x		x		Claim 1 recites receiving data, obtaining data, analyzing data (determining an account score using a machine learning model), transmitting data, receiving data (the enrollment request), and processing data (enrolling the account and performing unspecified one or more actions). Receiving data, analyzing data, transmitting data, and processing data have been determined to be directed to an abstract idea.			x	No		No. claim 1 amounts to nothing significantly more than an instruction to apply the abstract idea using a generic device performing routine computer functions. That is not enough to transform an abstract idea into a patenteligible invention.	Appeal from Examiner Rejection.	Bonner
PTAB - Ex Parte Wallach	PTAB	04/23/2020	N	Y					X	35		Detecting fraud in credit card transactions by comparing new and stored information			X	No		Generic, routine, and conventional	Appeal from Examiner rejection.	Bednarz
PTAB - Ex parte Zhang	PTAB	10/03/2019	N	Y				x	5		mental process, as a concept related to organizing or analyzing image data that can be performed mentally.		x			No - the method of claim 10 fails to satisfy the transformation prong of the Bilski machine-or-transformation test.	Appeal from Examiner Rejection.	Bonner

	Prost	Newman	Mayer	Plager	Lourie	Clevenger,	Schall	Bryson	Linn	Dyk	Moore	O'Malley	Reyna	Wallach	Taranto	Chen	Hughes	Stoll	Rader
																	Judge		
Aatrix											x (opinion)		x (dissent)		x				
Amdocs		x		x (opinion)									x (dissent)						
Ameranth													x(opinion)			x		x	
American Axle										x(opinion)	x (dissent)				x				
Ancora Technologies										x				x	x (opinion)				
Ariosa Diagnostics, Inc. **									x				x	x					
Athena Diagnostics, Inc. **		x			x													x	
Automated Tracking Sols.												x		x				x	
BASCOM		x (concur)										x					x (opinion)		
Berkheimer										x (opinion)					x			x	
BOOM! PAYMENTS, INC., v. STRIPE, INC.*					x								x	x					
Bot M8 LLC v Sony Corp*								x		x			x						
Bozeman Financial LLC **					x					x	x								
BSG													x	x			x(opinion)		
Buysafe, Inc. **															x		x		
Cardinet			x							x								x	
Cellspin Soft					x							x			x				
Chamberlain					x							x				x(opinion)			
ChargePoint	x												x		x				
Classen		x(opinion)								x(dissent)									x(add'l)
Content Extraction and Transmission **										x					x	x			
Core Wireless										x (opinion)		x		x (cip/dip)					
CosmoKey												x (opinion)	x (concur)					x	
Credit Acceptance Corp. **			x							x			x						
Customedia	x									x	x								
CxLoyalty	x(opinion)				x													x	
CyberSource	x							x		x(opinion)									
Data Engine Technologies								x					x					x (opinion)	
DDR Holdings				x (dissent)										x		x (opinion)			
Digitech											x		x(opinion)				x		
Ericsson Inc. **	x	x														x			
Electric Power								x						x(opinion)				x	
Electronic Communication Technologies, LLC **	x									x				x					
Enco Systems, Inc., v. Davincia, LLC*														x	x		x		
Endo Pharmaceuticals Inc.**						x								x			x		
Enfish											x				x		x (opinion)		
Exergen								x				x					x(dissent)		
Fairwarning			x		x												x(opinion)		
Finjan									x	x (opinion)							x		
Free Stream Media Corp v Alphonso										x			x				x		
Free Stream Media Corp v. DBA Samba TV*										x			x				x		
Genetic Veterinary Sciences **														x		x	x		
Genetic Technologies Ltd.**	x									x					x				
Glasswall Solutions Ltd.					x				x						x				
iLife Tech.											x		x			x			
Innovation Sciences v. Amazon.com, INC*					x		x				x								
In re Bd of Trustees LeLand Standford Junior U (3-11-21)*													x						
In re Bd of Trustees LeLand Standford Junior U (3-25-21)*													x						
In re BRCA1-& BRCA2-Based Hereditary Cancer Test **	x							x		x									
In re Downing					x (opinion)			x		x									
In re Elbaum*		x											x	x					
In re Gale											x				x		x(opinion)		
In re Gitlin													x			x	x		
In re Kenton Abel								x								x	x		
In re Marco Guldenaar Holding BV, **			x					x									x		
In re Roslin Institute (Edinburgh)**										x	x			x					
In re Smith, 815 F.3d 816 (Fed. Cir. 2016) **											x						x	x	
In re TLI Communications LLC **							x			x							x		

Case															
In re Villena	x													x	x(opinion)
In re Wang						x				x				x	
Internet Patents Corp. **		x							x	x					
Interval Licensing			x (concur									x	x (opinion)		
Int. Ventures (2015)								x(opinion)		x			x		
Int. Ventures (2017)	x									x	x(opinion)				
Inventor Holdings, LLC **										x			x	x	
Koninklijke							x						x	x	
McRO										x (opinion)		x		x	
Mentone				x				x	x(opinion)						
Mortgage Application Technologies	x				x			x							
Mortgage Grader **									x			x			
Mymail, LTD.								x	x	x					
Natural Alternatives Int'l, Inc. **								x		x	x				
OIP Technologies, Inc. **		x										x		x	
Packet Intelligence				x(opinion)						x(dissent)		x			
PersonalWeb	x (opinion)			x						x					
Planet Bingo, LLC (nonprecedential) **						x						x		x	
Rapid Litigation Management Ltd. **		x							x					x	
Recognicorp, LLC **				x						x				x	
Return Mail, Inc. **	x	x										x			
Roche Molecular Systems, Inc. **									x	x				x	
SAP America, Inc. **				x					x			x			
Secured Mail Solutions LLC **	x				x					x					
Sensormatic Elecs LLC v Wyze Labs*		x		x				x							
Sipco									x	x			x(opinion)		
Smart Systems Innovations **					x					x	x				
Solutran													x	x	x
SRI International				x					x						x
SYNCHRONOSS*	x									x(opinion)		x			
Synopsys, Inc. **				x					x					x	
Thales Visionix Inc. **				x					x		x				x
The Cleveland Clinic Foundation **				x						x	x				
Trading Technologies (2017)		x (opinion)							x		x				
Trading Technologies (2019)					x (opinion)				x (opinion)		x				
Two-Way Media Ltd. **				x						x				x	
Ultramercial, Inc. **		x		x					x						
Uniloc USA, Inc. **									x	x		x			
Universal Secure Registry v Apple*												x	x		x
U of Florida	x								x	x					
Vanda Pharmaceuticals Inc. **	x (dissent)			x										x	
Vehicle Intelligence And Safety LLC **					x				x	x					
Veripath, Inc.				x									x	x	
Versata Development Group **		x	x											x	
Visual Memory								x (opinion)					x (dissent)	x	
Voit										x		x			x
Voter Verified		x		x						x					
VPERSONALIZE*							x	x(opinion)		x					
XY, LLC**			x									x		x	
Yu v Apple	x	x(dissent)										x			

Eligible
Ineligible

* No case assessment added for these ineligble cases
** Included in Judge Tracker; case assessment available at https://www.bitlaw.com/patent/section-101-cases.html

Aatrix v. Green Shades Software, Inc.

Overview: Appeal from M.D. Florida - Decided February 14, 2018

Aatrix Software appealed grant of Green Shade's Rule(b)(6) motion to dismiss complaint based on the district court's holding that all asserted claims of the two patents-in-suit (US Patent No. 7,171,615 and US Patent No. 8,984,393) are invalid as ineligible subject matter under 35 USC 101. Aatrix also appealed the district court's denial of Aatrix's motion for leave to file a second amended complaint.

Federal Circuit Holding: The Federal Circuit vacated the district court's motion to dismiss, reversed its denial of Aatrix's motion for leave to file a second amended complaint, and remanded for further proceedings. The Federal Circuit based its decision on the district court denying Aatrix leave to amend without claim construction and in view of the proposed second amended complaint providing factual allegations that, taken as true, would directly affect the district court's Alice patent eligibility analysis that the asserted claims include inventive concepts that are not routine or conventional.

Judge Reyna concurred with the majority's decision to vacate both the motion to dismiss and denial for leave to file a second amended complaint. But Judge Reyna disagreed with the majority's broad statements on the role of factual evidence in a § 101 inquiry.

Technology: Both patents are directed to "systems and methods for designing, creating, and importing data into a viewable form on a computer so that a user can manipulate the form data and create viewable forms and reports." [1]

Discussion: The Federal Circuit found that the district court effectively ignored Aatrix Software's declarations regarding its claimed inventions having inventive concepts that were substantially more than routine and conventional. The Federal Circuit indicated that the proposed second amended complaint provided "evidence" of inventive concepts for analysis under prong 2 of the Alice test for eligible subject matter. The Court explained that "plausible factual allegations may preclude dismissing a case under § 101 inquiry where…'nothing on th[e] record…refutes those allegations as a matter of law or justifies dismissal under Rule 12(b)(6).'" [2]

In coming to its decision, the Court found that "[i]n assessing the claims under Alice/Mayo step two, the district court found that the claimed 'data file containing data from a user application for populating the viewable form' describes a 'well understood' and 'routine' component and function of a computer.'" [3] But "[t]he district court supplied no reasoning or evidence for its finding that the claimed data file "describes a 'well understood' and 'routine' component and function of a computer". [4]

Representative claim: 1. A data processing system for designing, creating, and importing data into, a viewable form viewable by the user of the data processing system, comprising:
(a) a form file that models the physical representation of an original paper form and establishes the calculations and rule conditions required to fill in the viewable
form;

(b) a form file creation program that imports a background image from an original form, allows a user to adjust and test print the background image and compare
the alignment of the original form to the background test-print, and creates the form file;

(c) a data file containing data from a user application for populating the viewable form; and

(d) a form viewer program operating on the form file and the data file, to perform calculations, allow the user of the data processing system to review and change the data, and create viewable forms and reports.

Practice tips and takeaways:	1) As noted in Berkheimer, when drafting your patent application, consider providing "problem/solution" in the specification to highlight the various inventive concepts of your software related invention as an improvement over known prior art (e.g., Aatrix's claimed "data file contains an inventive concept directed to improved importation of data and interoperability with third-party software." [5]) Explicitly stating advantages of your inventive concept may help support the inventive concept captured in your claims as not routine or conventional. 2) When filing a complaint, consider providing support from your patent specification that your asserted claims include inventive concepts that are not routine and conventional.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/17-1452.Opinion.2-12-2018.1.PDF
Art Unit, Examiner:	2176, Quoc Tran
Citations:	[1] Aatrix, 882 F.3d 1121, 1123 (Fed. Cir. 2018). [2] Aatrix, 882 F.3d at 1125, citing FairWarning IP, LLC v. Iatric Sys., Inc., 839 F.3d 1089, 1097 (Fed. Cir. 2016) (quoting BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC, 827 F.3d 1341, 1352 (Fed. Cir. 2016). [3] Aatrix, 882 F.3d at 1129, citing J.A. 26. [4] *Id*. [5] *Id*.
Panelists:	Moore, Taranto, Reyna (dissent)

Amdocs (Israel) Limited v. Openet Telecom, Inc.

Overview:

Appeal from E.D. Virginia - Decided November 1, 2016

Amdocs appeals district court's granting of Openet's motion on the pleadings finding that the patents at issue were not directed to eligible subject matter under 35 USC 101.

Patents at issue: US Patent Nos. 7,631,065; 7,412,510; 6,947,984; and 6,836,797 (Continuations of 6,418,467, '797 being CIP)

Decision: Reversed and remanded.

The patents relate to accounting and billing problems encountered by network service providers.

Discussion:

The '065 patent concerns a system, method, and computer program for merging data in a network-based filtering and aggregating platform as well as a related apparatus for enhancing networking accounting data records. The '510 patent concerns a system, method, and computer program for reporting on the collection of network usage information. The '984 patent concerns a system and accompanying method and computer program for reporting on the collection of network usage information from a plurality of network devices. The '797 patent concerns a system, method, and computer program for generating a single record reflecting multiple services for accounting purposes.

The court found the claims to involve a close decision of similarity to the claims of BASCOM and DDR Holdings versus Digitech and in re TLI, holdings, "In this case, the claims are much closer to those in BASCOM and DDR Holdings than those in Digitech, Content Extraction, and In re TLI Commc'ns. Indeed, even if we were to agree that claim 1 is directed to an ineligible abstract idea under step one, the claim is eligible under step two because it contains a sufficient 'inventive concept.'" [1]

The court points to the description, "As explained by the patent, this distributed enhancement was a critical advancement over the prior art", further finding "In other words, this claim entails an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases). The solution requires arguably generic components, including network devices and "gatherers" which "gather" information. However, the claim's enhancing limitation necessarily requires that these generic components operate in an unconventional manner to achieve an improvement in computer functionality." [2]

Representative claim: 1. A computer program product embodied on a computer readable storage medium for processing network accounting information comprising:
    computer code for receiving from a first source a first network accounting record;

    computer code for correlating the first network accounting record with accounting

information available from a second source; and

  computer code for using the accounting information with which the first network accounting record is correlated to enhance the first network accounting record.

Practice tips and takeaways:	When drafting specifications, consider being specific with respect to how the invention operates to provide an improvement over the state of the art. Consider carefully describing interactions and operations between components that may be considered conventional to relate a story of how these components act in an unconventional manner.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/15-1180.Opinion.10-28-2016.1.PDF
Art Unit, Examiner:	2442, Robert Harrell (7,631,065); 2142 Robert Harrell (7,412,510); 2142, Hai Nguyen
Citations:	[1] Amdocs (ISRAEL) LTD. V. Openet Telecom, INC., 841 F. 3D 1288, 1300 (Fed. Cir. 2016). [2] Id. at 1300-1301.
Panelists:	Plager, Newman, Reyna (dissent)

Apple, Inc., Domino's Pizza, Inc., Domino's Pizza LLC, Fandango, LLC, Opentable, Inc. v. Ameranth

Overview:	Appeals from the PTAB - Decided November 29, 2016. U.S. Patent No. 6,384,850 involved generating menus on a computer - Covered Business Method decision review. [1]
Discussion:	The claims were found directed to an abstract idea of generating a second menu from a first menu. The additional elements were found to be routine and conventional giving the claims a broadest reasonable interpretation. No inventive concept was found in dependent claims. For at least some of the dependent claims, the specification provided no description of how to implement the claimed functions, such as linking an order to a table.
Representative claim:	1. An information management and synchronous communications system for generating and transmitting menus comprising: a. a central processing unit, b. a data storage device connected to said central processing unit, c. an operating system including a graphical user interface, d. a first menu consisting of menu categories, said menu categories consisting of menu items, said first menu stored on said data storage device and displayable in a window of said graphical user interface in a hierarchical tree format, e. a modifier menu stored on said data storage device and displayable in a window of said graphical user interface, f. a sub-modifier menu stored on said data storage device and displayable in a window of said graphical user interface, and g. application software for generating a second menu from said first menu and transmitting said second menu to a wireless handheld computing device or Web page, wherein the application software facilitates the generation of the second menu by allowing selection of categories and items from the first menu, addition of menu categories to the second menu, addition of menu items to the second menu and assignment of parameters to items in the second menu using the graphical user interface of said operating system, said parameters being selected from the modifier and sub-modifier menus.
Practice tips and takeaways:	See Electric Power tab - Consider making sure your specification contains details of how claimed functionality is performed and avoids characterization of elements that are claimed as conventional or typical or commonly known. Also avoid referencing well-known business practices. There was a technical problem involved here (how to hierarchically display a large menu on a small screen), but the claims lacked some specifics of how the technical problem was solved.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/15-1703.Opinion.11-28-2016.1.PDF
Art Unit, Examiner:	2173, Cao H. Nguyen
Citation:	[1] Apple, Inc. et al., v. Ameranth, Inc. 842 F.3d 1229, 2016 U.S. App. LEXIS 21277, 120 U.S.P.Q.2d (BNA) 1844 (Fed. Cir. 2016).
Panelists:	Reyna, Chen, Stoll

American Axle & Manufacturing(AAM), Inc. v. Neapco Holdings LLC

Overview:	Appeal from the United States District Court for the District of Delaware - Decided October 3, 2019 - US Patent No. 7,774,911 involving methods of manufacturing driveline propellor shafts with liners designed to attenuate vibrations transmitted through a shaft assembly. [1]
Discussion:	Alice Step 1: The claims of the '911 patent are "directed to the utilization of a natural law (here, Hooke's law and possibly other natural laws) in a particular context." The problem with AAM's argument is that the solution to these desired results is not claimed in the patent. The Fed. Cir. has repeatedly held that features that are not claimed are irrelevant as to step 1 or step 2 of the Mayo/Alice analysis.
	Further, the court reiterated that the "distinction between results and means is fundamental to the step 1 eligibility analysis, including in law-of-nature cases, not just abstract-idea cases."
	The dissent opinion "suggests that failure of claim to designate how to achieve the desired result is exclusively an issue of enablement." [1]
	Alice Step 2: The Fed. Circ. determined that the "claimed advance is simply controlling various known characteristics of the liner so as to achieve attenuation of two vibration modes simultaneously, whether that is by changing the mass or thickness of the liner, altering the location of the liner in the prop shaft, or modifying any other physical attributes that will produce the claimed dual-attenuation." The only guidance for achieving said advance is to perform a plurality of experiments. The Fed. Circ. holds that "this direction to engage in a conventional, unbounded trial-and-error process does not make a patent eligible invention, even if the desired result to which that process is directed would be new and unconventional." The remaining steps in the claims were considered by the Fed. Circ. to be routine and conventional. [1]
	Overall, the dissent describes the overreaching of the majority in the finding of being direct to a law of nature and applying the nothing more standard stating "The majority has concluded that the *Nothing More* question will be decided on appeal as a matter of law, without briefing any argument, and without regard to what the experts think. I cannot fathom the confusion that will be caused by declaring that claims are ineligible as directed to a natural law, when it is clear to all involved that this patent does not recite any particular natural law. Every mechanical invention must apply the laws of physics—that does not render them all ineligible, or maybe it does now. Section 101 simply should not be this sweeping and this manipulatable."
	The Fed. Cir. stated that appellant did not argue before the district court or on appeal that any of the dependent claims change the outcome of the eligibility analysis. However, AAM filed a petition for rehearing that the dependent claims were not waived and, in fact, argued that location of the liner (which is recited in dependent claims) was argued and not fully considered.
Representative claim:	1. A method for manufacturing a shaft assembly of a driveline system, the driveline system further including a first driveline component and a second driveline component, the shaft assembly being adapted to transmit torque between the first driveline component and the second driveline component, the method comprising: providing a hollow shaft member; tuning at least one liner to attenuate at least two types of vibration transmitted through the shaft member; and
	positioning the at least one liner within the shaft member such that the at least one liner is configured to damp shell mode vibrations in the shaft member by an amount that is greater than or equal to about 2%, and the at least one liner is also configured to damp bending mode vibrations in the shaft member, the at least one liner being tuned to within

bending mode vibrations in the shaft member, the at least one liner being tuned to within about ±20% of a bending mode natural frequency of the shaft assembly as installed in the driveline system.

22. A method for manufacturing a shaft assembly of a driveline system, the driveline system further including a first driveline component and a second driveline component, the shaft assembly being adapted to transmit torque between the first driveline component and the second driveline component, the method comprising:
providing a hollow shaft member; tuning a mass and a stiffness of at least one liner; and

inserting the at least one liner into the shaft member;

wherein the at least one liner is a tuned resistive absorber for attenuating shell mode vibrations and wherein the at least one liner is a tuned reactive absorber for attenuating bending mode vibrations.

Practice tips and takeaways:	Sufficient detail should be including in the application draft describing the solution to the problem rather than simply applying a natural law or mathematical formula. This should be extended to the claim scope where, at the very least, dependent claims should include limitations with sufficient detail to describe the solution to the problem.

Carefully review the claims to determine if the claims are directed to the result rather than how to solve the problem at hand.

Further, the dissent focused on enablement, which many believe is often convoluted with 101 issues. Clearly drafting a specification and claims with details for how to solve the problem and how results are achieved will help distinguish over simply stating "apply" said law of nature. |
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1763.OPINION.7-31-2020_1628791.pdf
Art Unit, Examiner:	3726, John C. Hong
Citation:	[1] Am. Axle & Mfg., Inc. v. Neapco Holdings LLC, 966 F.3d 1347, 1348 (Fed. Cir. 2020)
Panelists:	Dyk, Moore, and Taranto (Moore dissent)

Ancora Technologies Inc v HTC America Inc

Overview:	Precedential. Appeal from district court's final judgment in the U.S. District Court for the Western District of Washington regarding US Patent No. 6,411,941. Court found that under Enfish that the claims were not directed to ineligible subject matter. Rather, the claimed advance is a concrete assignment of specified functions among a computer's components to improve computer security and a claimed improvement in computer functionality eligible for patenting. [1]
Discussion:	The court reviewed a number of previous holdings that found patentable subject matter including Finjan, Enfish, Visual Memory, Core Wireless Licensing, and Data Engine Technologies. In accordance with those precedents, we conclude that claim 1 of the '941 patent is not directed to an abstract idea. Improving security—here, against a computer's unauthorized use of a program—can be a non-abstract computer-functionality improvement if done by a specific technique that departs from earlier approaches to solve a specific computer problem. The claimed method here specifically identifies how that functionality improvement is effectuated in an assertedly unexpected way: a structure containing a license record is stored in a particular, modifiable, non-volatile portion of the computer's BIOS, and the structure in that memory location is used for verification by interacting with the distinct computer memory that contains the program to be verified.
Representative claim:	1. A method of restricting software operation within a license for use with a computer including an erasable, non-volatile memory area of a BIOS of the computer, and a volatile memory area; the method comprising the steps of: selecting a program residing in the volatile memory, using an agent to set up a verification structure in the erasable, non-volatile memory of the BIOS, the verification structure accommodating data that includes at least one license record, verifying the program using at least the verification structure from the erasable non-volatile memory of the BIOS, and acting on the program according to the verification.
Practice tips and takeaways:	Claim 1 of the '941 patent was found to be directed to a solution to a computer-functionality problem: an improvement in computer functionality that has "the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it." Use this approach when drafting claims to maximize the likelihood of having patentable subject matter.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1404.Opinion.11-16-2018.pdf
Art Unit, Examiner:	2161, Calvin Hewitt II
Citations:	[1] Ancora Technologies, Inc v. HTC America, Inc., 908 F.3d 1343 (Fed. Cir. 2018)
Panelists:	Dyk, Wallach, Taranto

Automated Tracking Sols., LLC v Coca-Cola Co.

Overview:

Appeal from Northern District of Georgia - Decided July 30, 2019.

This opinion is nonprecedential but still provides useful insights for practice tips for drafting specification and claims that may avoid abstract subject matter rejections under 35 U.S.C. § 101. The patents at issue were US Patent Nos. 7,551,089; 7,834,766; 8,842,013; and 8,896,449.

The Federal Circuit in Automated Tracking Sols., LLC v. Coca-Cola Co. affirmed the district court's holding that the asserted "inventory control" software patent claims were directed to ineligible subject matter under 35 U.S.C. § 101. The asserted claims in this case relate to processes and systems to perform the functions of "identification, tracking, location, and/or surveillance of tagged objects anywhere in a facility or area." Because the breadth of the two representative claims on appeal were directed to a "collecting data," "analyzing that data", and "determining results based on the analysis of data" and did not include any "non-conventional" elements or "particular configuration or arrangement" of otherwise conventional elements, the Federal Circuit found that the claims were directed to an abstract idea under Alice step one. Moreover, under Alice step two, the Federal Circuit found the two representative claims lacked an "inventive concept in the individual claim limitations or their ordered combination" and, thus, were directed to ineligible subject matter under § 101. [1]

Discussion:

All four Asserted Patents are titled "Method and Apparatus for Tracking Objects and People" and share a common specification. "Under Alice step one, the district court concluded that the representative claims were directed to the patent-ineligible abstract idea of "collecting data, analyzing it, and determining the results based on the analysis of data." This analysis follows the Electric Power Group line of cases.

"The district court determined under *Alice* step two that the claims lacked an inventive concept because nothing in the claim limitations or their ordered combination was sufficient to transform the abstract idea into a patent-eligible application. Id. at 1290. Accordingly, the district court held all four patents ineligible under § 101."

In affirming the district court's *Alice* analysis of the claims, the Federal Circuit stated that its "concerns lie with ATS's portrayal of the breadth of the representative claims. The representative claims simply do not require a particular configuration or arrangement of RFID system components. Nor do the representative claims require multiple antenna coverage areas." Thus, Fed Circuit found that "claim elements [viewed] individually or as an ordered combination...do not contain an inventive concept sufficient to confer patent eligibility."

Representative claim:

Of note, ATS conceded that the district court's decision not to analyze ATS's two additional proposed representative claims (claim 1 of the US 8,842,013 patent and claim 1 of the US 8,896,499 patent) did not affect the § 101 analysis.

1. (US 7,834,766) A system for locating, identifying and/or tracking of an object, the system comprising:
a first transponder associated with the object;

a reader that is configured to receive first transponder data via a radio frequency (RF) signal from the first transponder;

an antenna in communication with the reader and having a first coverage area;
a processor coupled to the reader, wherein the processor is configured to receive the first transponder data from the reader and to generate detection information based on the received first transponder data, the detection information comprising first sighting and last sighting of the first transponder in the first coverage area; and

a storage device that is configured to store the detection information.

49. (US 7,551,089) A system for locating, identifying, and/or tracking of at least one object, said system comprising:
a transponder affixable to the object, the transponder associated with a transponder identification (ID);

a reader for detecting a transponder ID;

an antenna for communicating radio frequency (RF) signals between said reader and said transponder, the RF signals including the transponder ID;

a storage device for storing known transponder IDs and detection information associated with the stored known transponder IDs, wherein the detection information indicates whether the stored known transponder ID has been previously detected by the system; and

a processor for comparing the known transponder IDs stored in said storage device with the detected transponder ID, and determining whether the detected transponder ID is a detected known transponder ID based on the comparison of the known transponder IDs with the detected transponder ID.

Practice tips and takeaways:	The Federal Circuit's decision provides insights for (i) both drafting claims that avoid 101 and (2) identifying more than the broadest independent claim for purposes of appeal where dependent claims may provide elements that individually or in combination with the independent claims provide an inventive concept sufficient to confer patent eligibility. In this case, ATS should **not** have conceded "that the two claims analyzed by the district court are representative of all the claims in all four patents". Other dependent claims may have been enough to avoid 101.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/17-1494.Opinion.2-15-2018.1.PDF
Art Unit, Examiner:	2612, Thomas Mullen (for US 7,551,089 and US 7,834,766); 2685, Van Thanh Trieu (for US 8,842,013; and US 8,896,449)
Citations:	[1] Automated Tracking Sols., LLC v. Coca-Cola Co., 2017-1494 (Fed. Cir. 2018)
Panelists:	Moore, Wallach, Stoll

BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC

Overview: Appeal from N.D. Texas - Decided June 27, 2016

BASCOM appeals grant of Motion to Dismiss for failure to state a claim based on invalidity under 35 USC 101.

Patent at issue: US Patent No. 5,987,606

Holding:
BASCOM has shown that claims of the '606 patent pass step two of the Alice two-part framework.   Motion to Dismiss is vacated and case remanded.

Technology:
Filtering Internet content remotely while providing individual filtering by user.

Discussion: Claims recite an Internet filter installed on a remote server such as an ISP server. The filter is provided access to individualized filtering mechanisms for each user. When a user makes a request for data, the filter identifies the user making the request and associates that user with their individual filtering mechanism. Based on the request and the filtering mechanism, the requested data is provided or withheld based on the filtering policy.

The specification describes this as an improvement over the state of the art, which either required individual filtering mechanisms to be installed on each workstation, or for filters installed on local or ISP servers which use a one size fits all filter that is applied to all users.

The court found that the claims were directed to "content filtering system for filtering content retrieved from an Internet computer network" [1], and agreed with the district court that "filtering content is an abstract idea because it is a long-standing, well-known method of organizing human behavior." [2]

However, the court recognized that although the limitations of the claims, taken individually recite generic computer network and Internet components and are not inventive by themselves, the court considered the ordered combination and determined "an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces." [3]

The court noted that the claimed method of filtering did not pre-empt all ways of filtering content on the Internet, but recite a specific discrete implementation of the abstract idea of filtering content. "Filtering content on the Internet was already a known concept, and *the patent describes how its particular arrangement of elements is a technical improvement over prior art ways* of filtering such content. " [4] The claims carve out a specific location for the filtering system (a remote ISP server) and require the filtering system to give users the ability to customize filtering for their individual network accounts.

Representative claim:	1. A content filtering system for filtering content retrieved from an Internet computer network by individual controlled access network accounts, said filtering system comprising:
	
	   a local client computer generating network access requests for said individual controlled network accounts;
	
	   at least one filtering scheme;
	
	   a plurality of sets of logical filtering elements;
	
	   and
	   a remote ISP server coupled to said client computer and said Internet computer network, said ISP server associating each said network account to at least one filtering scheme and at least one set of filtering elements, said ISP server further receiving said network access requests from said client computer and executing said associated filtering scheme utilizing said associated set of logical filtering elements.

Practice tips and takeaways:	When drafting specifications, consider being specific in description of the arrangement and relative positioning of components of the system. A specifically described arrangement provides a position supporting a technical improvement. In addition, more specific arrangement precludes allegations of pre-emption.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/15-1763.Opinion.6-23-2016.1.PDF
Art Unit, Examiner:	2785, Ly Hua
Citations:	[1] BASCOM Global Internet Svcs v. AT&T Mobility, 827 F. 3D 1341 at 1348 (Fed. Cir. 2016). [2] *Id.* [3] *Id* . at 1350. [4] *Id* .
Panelists:	Chen, O'Malley, Newman (concur)

Berkheimer v. HP Inc

Overview:

Appeal from N.D. Illinois - Decided February 14, 2018

Berkheimer appeals grant of Summary Judgment holding claims 1-7 and 9 of patent-in-suit (US Patent No. 7,447,713) as invalid as ineligible subject matter under 35 USC 101. Berkheimer also appeals holding that claims 10-19 of the patent-in-suit are invalid for indefiniteness.

Federal Circuit Holding: Court affirmed indefiniteness of claims 10-19 of the patent-in-suit and that claims 1–3 and 9 of the patent-in-suit are ineligible under Alice test because they "do not capture the purportedly inventive concepts" identified in the specification as an unconventional improvement to storing parsed data to eliminate redundancies and improve efficiencies in data storage. [1] The court vacated, however, the district court's grant of summary judgment that dependent claims 4–7 are ineligible under § 101 because there is a fact question as to whether the claims 4-7 "contain limitations directed to the arguably unconventional inventive concept described in the specification". [2] The Court then remanded for further proceedings.

Technology: Digital processing and archiving of files. The system parses files into multiple objects and tags the objects to create relationships between them, and then compares the objects to archived objects to identify variations based on predetermined standards and rules. The system eliminates redundant storage of common text and graphical elements between stored documents.

Discussion:

With respect to the appeal of patent eligibility, the Federal Circuit found that Berkheimer maintained that limitations included in dependent claims 4–7 bear on patent eligibility and never agreed to make claim 1 representative of all claims of patent-in-suit. In support of this finding, the Court stated that "Mr. Berkheimer advanced meaningful arguments regarding limitations found only in the dependent claims". [3] This is a key finding, not only that Berkheimer did not waive his patent eligibility arguments with respect to dependent claims 4-7, but provides guidance for the Court's abstract analysis under the Alice test step 2.

Under Alice test step 1, the Court found that the claims at issue were either directed to the "abstract idea of parsing and comparing data" (i.e., claims 1-3 and 9), "the abstract idea of parsing, comparing and storing data" (i.e., claim 4), or "the abstract idea of parsing, comparing, storing, and editing data" (i.e., claims 5-7). [4] The Court further found that, even though Berkheimer's patent teaches "the parser transforms data from source to object code [, that is not enough to] demonstrate non-abstractiveness without evidence that this transformation improves computer functionality in some way." [5]

Focusing on Alice test step 2, the Court held that "[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact." [6] The Court further held that, when there is no genuine issue of material fact when addressing this Alice step 2 question,

"this issue can be decided on summary judgment as a matter of law." [7] However, the Court ruled that the district court judge erred in concluding there are no factual questions in its Alice step 2 inquiry and resolving this case at summary judgment.

In overturning the district court's ruling, the Court found that dependent claims 4-7 "contain limitations directed to the arguably unconventional inventive concept described in the specification" for "storing a reconciled object structure in the archive without substantial redundancy." [8] In support, the Court stated that "[t]he specification states that storing object structures in the archive without substantial redundancy improves system operating efficiency and reduces storage costs" and that "known asset management systems did not archive documents in this manner." [9] Accordingly, although the Court did not decide that claims 4-7 were patent eligible under § 101, the Court indicated that Berkheimer had sufficiently identified the inventive concept and advantage over known prior art in the specification and captured such inventive concept in the dependent claims such that specification's disclosure supports a fact question as to the eligibility of claims at issue so summary judgment is not warranted.

Representative	1. A method of archiving an item in a computer processing system comprising: presenting the item to a parser;
	parsing the item into a plurality of multipart object structures wherein portions of the structures have searchable information tags associated therewith;
	evaluating the object structures in accordance with object structures previously stored in an archive;
	presenting an evaluated object structure for manual reconciliation at least where there is a predetermined variance between the object and at least one of a predetermined standard and a user defined rule.
	4. The method as in claim 1 which includes storing a reconciled object structure in the archive without substantial redundancy.
	Note: Claim 1 found to be directed to abstract idea and not incorporate any inventive concept. But dependent claim 4 found to include an inventive concept under Alice step 2.
Practice tips and takeaways:	1) When drafting your patent application, consider providing "problem/solution" in the specification to highlight the various inventive concepts of your software related invention as an improvement over known prior art (e.g., Berkheimer's inventive concept of

"archiv[ing] documents in an inventive manner that improves these aspects of the disclosed archival system").   Consider explicitly and repeatedly stating advantages of your inventive concept that support the inventive concept captured in your claims as not routine or conventional.

2)   When filing an appeal to a 101 rejection, do not always rely on your independent claim as representative of all the pending claims at issue.   Consider identifying each dependent claim that has an additional limitation that is supported in the specification as an inventive concept improvement over known prior art.

Case link: http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/17-1437.Opinion.2-6-2018.1.PDF

Art Unit, Examiner: 2168, Thuy Pardo

Citations: [1] Berkheimer v. HP Inc., 881 F.3d 1360, 1370 (Fed. Cir. 2018).
                    [2] *Id.*
                    [3] *Id.* at 1365.
                    [4] *Id.* at 1367.
                    [5] *Id.*
                    [6] *Id.* at 1368.
                    [7] *Id.*
                    [8] *Id.* at 1370.
                    [9] *Id.*

Panelists: Moore, Taranto, Stoll

BSG Tech v. Buyseasons, Inc. et al

Overview:	Appeal from E.D. Texas - Decided August 15, 2018 - US Patent Nos. 6,035,294, 6,243,699, and 6,195,652 involving "self-evolving generic index" for organizing information stored in a database. [1]

Discussion:	The claims at issue are directed toward systems and methods of indexing that combine some or all of these features. The district court concluded that the asserted claims "are directed to the abstract idea of considering historical usage information while inputting data" and lack an inventive concept sufficient to transform them into patent-eligible subject matter. The Federal Circuit affirmed. [1]

Regarding step one, the Federal Circuit explained that (a) the recitation of a database structure slightly more detailed than a generic database is insufficient to overcome step one, (b) narrowing of claim scope, by itself, does not satisfy Alice's test, and (c) the benefits described by BSG Tech relate to the flow for performing the abstract idea not improvements to the database functionality.

Regarding step two, the Federal Circuit concluded that the only alleged unconventional feature of BSG Tech's claims is the requirement that users are guided by summary comparison usage information or relative historical usage information. But this simply restates the abstract idea.

Representative claims:	['294 Patent] 1. A method of storing marketplace information for multiple types of items in a database, comprising: providing a user with a first data entry interface for selecting an item classification; providing the user with a parameters list that displays a plurality of parameters previously related to the item classification by a plurality of previous users during a process of loading item descriptions; providing a second data entry interface that allows the user to add an additional parameter to the parameters list; and providing a third data entry interface that allows the user to associate individual parameters from the parameters list with individual values from a values list; thereby describing an item falling within the item classification as a set of parameter-value pairs. ['699 Patent] 1. A method of indexing and retrieving data being posted by a plurality of users to a wide area network, comprising: providing the users with a mechanism for posting the data as parametrized items; providing the users with listings of previously used parameters and previously used values for use in posting the data; providing the users with summary comparison usage information corresponding to the previously used parameters and values for use in posting the data; and

previously used parameters and values for use in posting the data; and

providing subsequent users with the listings of previously used parameters and values, and corresponding summary comparison usage information for use in searching the network for an item of interest.

['652 Patent] 1. A method of storing marketplace information for multiple types of items in a database having a structure, comprising: providing a user with a parameter list relating to at least a portion of the multiple types of items;

providing a first data entry interface that allows the user to add an additional parameter to the parameter list without modifying the structure of the database;

and providing a second data entry interface that allows the user to use the additional parameter to record additional data relating to the item.

Practice tips and takeaways:	When the application and claims relate to abstract ideas, any unconventional aspects of the technology should be emphasized and detailed in the specification. Avoid describing the unconventional feature only in the context of the abstract idea.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/17-1980.Opinion.8-15-2018.pdf
Art Unit, Examiner:	2771, Wayne P Amsbury (USPN 6,035,294, USPN 6,243,699, and USPN 6,195,652)
Citations:	[1] BSG Tech LLC v. Buyseasons, Inc., 899 F.3d 1281 (Fed. Cir. 2018)
Panelists:	Reyna, Wallach, and Hughes

Cardionet T, LLC v. INFOBIONIC, INC.

Overview:

Appeal from the United States District Court for the District of Massachusetts decided April 17, 2020, precedential. Appeal on a motion to dismiss 12(b)(6). Eligible - US Patent No. 7,941,207 is directed to an improved cardiac monitoring device that detects beat-to-beat timing of cardiac activity, detects premature ventricular beats, and determines the relevance of the beat-to-beat timing to atrial fibrillation or atrial flutter, taking into account the variability in the beat-to-beat timing caused by premature ventricular beats identified by the device's ventricular beat detector.

Discussion:

Eligible - not directed to abstract idea. "The patent's systems and techniques also analyze information regarding the time period between ventricular contractions (i.e., the R to R interval) to detect atrial fibrillation and atrial flutter using nonlinear statistical approaches." Claim 1 "is directed to an improved cardiac monitoring device and not to an abstract idea. In particular, the language of claim 1 indicates that it is directed to a device that detects beat-to-beat timing of cardiac activity, detects premature ventricular beats, and determines the relevance of the beat-to-beat timing to atrial fibrillation or atrial flutter, taking into account the variability in the beat-to-beat timing caused by premature ventricular beats identified by the device's ventricular beat detector. In our view, the claims "focus on a specific means or method that improves" cardiac monitoring technology; they are not "directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery." McRO, 837 F.3d at 1314 (citations omitted)" Contrast to the University of Florida. In Cardionet, technical details were provided in the specification. "The specification is helpful in determining what the claims were directed to." "When read as a whole, and in light of the written description, we conclude that claim 1 of the '207 patent is directed to an improved cardiac monitoring device and not to an abstract idea. In particular, the language of claim 1 indicates that it is directed to a device that detects beat-to-beat timing of cardiac activity, detects premature ventricular beats, and determines the relevance of the beat-to-beat timing to atrial fibrillation or atrial flutter, taking into account the variability in the beat-to-beat timing caused by premature ventricular beats identified by the device's ventricular beat detector. In our view, the claims "focus on a specific means or method that improves" cardiac monitoring technology; they are not "directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery." McRO, 837 F.3d at 1314 (citations omitted)." Further, only the intrinsic record is necessary to understand the prior art for an Alice Step one analysis.

Representative claim:	1. A device, comprising:
	a beat detector to identify a beat-to-beat timing of cardiac activity;
	a ventricular beat detector to identify ventricular beats in the cardiac activity;
	variability determination logic to determine a variability in the beat-to-beat timing of a collection of beats;
	relevance determination logic to identify a relevance of the variability in the beat-to-beat timing to at least one of atrial fibrillation and atrial flutter; and
	an event generator to generate an event when the variability in the beat-to-beat timing is identified as relevant to the at least one of atrial fibrillation and atrial flutter in light of the variability in the beat-to-beat timing caused by ventricular beats identified by the ventricular beat detector.
Practice tips and takeaways:	The court found that the claims were directed to a new technique and associated system, not automation of a known technique. The description of technical advantages provided in the specification was persuasive to the court in evaluating the technical improvement of the claims.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/19-1149.Opinion.4-17-2020_1571885.pdf
Art Unit, Examiner:	3762, George Manuel
Citation:	Cardionet, LLC *et al*. v. Infobionic, INC., No. 2019-1149, 2020 WL 1897237 (Fed. Cir. Apr. 17, 2020).
Panelists:	Dyk, Plager, Stoll

Cellspin Soft, Inc. v. FitBit, Inc. et al.

Overview:	Appeal from Northern District of California - Decided June 25, 2019. Precedential Opinion US Patent Nos. 8,738,794; 8,892,752; 9,258,698; and 9,749,847 The Federal Circuit vacated the district court opinion and remanded back, finding the claims to be directed to an abstract idea but that the district court erred in its step two analysis. The claims are directed to connecting a data capture device, e.g., a digital camera, to a mobile device so that a user can automatically publish content from the data capture device to a website.
Discussion:	Claims held to be abstract because they generally involve capturing and transmitting data from one device to another. However, the district court erred in its step two analysis by not considering the ways the invention was alleged to be unconventional. For example, it was alleged to be unconventional to separate the steps of capturing and publishing data so that each step would be performed by a different device linked via a wireless, paired connection. The district court erred by ignoring the principle, implicit in Berkheimer and explicit in Aatrix, that factual disputes about whether an aspect of the claims is inventive may preclude dismissal at the pleadings stage under § 101.
Representative claim:	1. A method for acquiring and transferring data from a Bluetooth enabled data capture device to one or more web services via a Bluetooth enabled mobile device, the method comprising: providing a software module on the Bluetooth enabled data capture device; providing a software module on the Bluetooth enabled mobile device; establishing a paired connection between the Bluetooth enabled data capture device and the Bluetooth enabled mobile device; acquiring new data in the Bluetooth enabled data capture device, wherein new data is data acquired after the paired connection is established; detecting and signaling the new data for transfer to the Bluetooth enabled mobile device, wherein detecting and signaling the new data for transfer comprises: determining the existence of new data for transfer, by the software module on the Bluetooth enabled data capture device; and sending a data signal to the Bluetooth enabled mobile device, corresponding to existence of new data, by the software module on the Bluetooth enabled data capture device automatically, over the established paired Bluetooth connection, wherein the software module on the Bluetooth enabled mobile device listens for the data signal sent from the Bluetooth enabled data capture device, wherein if permitted by the software module on the Bluetooth enabled data capture device, the data signal sent to the Bluetooth enabled mobile device comprises a data signal and one or more portions of the new data;

transferring the new data from the Bluetooth enabled data capture device to the Bluetooth enabled mobile device automatically over the paired Bluetooth connection by the software module on the Bluetooth enabled data capture device;

receiving, at the Bluetooth enabled mobile device, the new data from the Bluetooth enabled data capture device;

applying, using the software module on the Bluetooth enabled mobile device, a user identifier to the new data for each destination web service, wherein each user identifier uniquely identifies a particular user of the web service;

transferring the new data received by the Bluetooth enabled mobile device along with a user identifier to the one or more web services, using the software module on the Bluetooth enabled mobile device;

receiving, at the one or more web services, the new data and user identifier from the Bluetooth enabled mobile device, wherein the one or more web services receive the transferred new data corresponding to a user identifier; and
making available, at the one or more web services, the new data received from the Bluetooth enabled mobile device for public or private consumption over the internet, wherein one or more portions of the new data correspond to a particular user identifier.

Practice tips and takeaways:	The decision illustrates that it is worth arguing the Berkheimer line of cases in litigation (and implicitly prosecution as well) to avoid a motion to dismiss, summary judgment, etc., especially if there are clear factual disputes over the inventive aspects of the claims.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1817.Opinion.6-25-2019.pdf
Art Unit, Examiner:	709, Sulaimen Nooristany
Citations:	Cellspin Soft, Inc. v. FitBit, Inc. 927 F.3d 1306 (Fed. Cir. 2019)
Panelists:	LOURIE, O'MALLEY, and TARANTO

Chamberlain Group Inc v Techtronic Industries Co

Overview: Appeal from the United States District Court for the Northern District of Illinois., decided
                 August 21, 2019, US Patent No. 7,224,275. Ineligible - reversed district court's decision that
                 the claims were eligible under 101. The court focused on the difference between the claims
                 and the prior art and found that the difference, wireless transmission, is an abstract idea
                 without further inventive concept.

Discussion: The Federal Circuit evaluated the claims in the context of the prior art to focus on the
                 difference — finding that the "only described difference between the prior art movable
                 barrier operator systems and the claimed movable barrier operator system is that the status
                 information about the system is communicated wirelessly, in order to overcome certain
                 undesirable disadvantages of systems using physical signal paths—additional cost, exposed
                 wiring, and increased installation time." Except for the wireless transmission, the court
                 found that the remaining elements were "generally well understood in the art." With
                 respect to the wireless transmission, the court found the wireless transmission of status to
                 be an abstract idea: "the broad concept of communicating information wirelessly, without
                 more, is an abstract idea." With respect to Step 2, the court found that the claims didn't
                 include any inventive concept beyond the excluded abstract idea: "In other words, beyond
                 the idea of wirelessly communicating status information about a movable barrier operator,
                 what elements in the claim may be regarded as the "inventive concept"? ... [W]ireless
                 transmission is the only aspect of the claims that CGI points to as allegedly inventive over
                 the prior art. . . . Wireless communication cannot be an inventive concept here, because it is
                 the abstract idea that the claims are directed to. Because CGI does not point to any
                 inventive concept present in the ordered combination of elements beyond the act of
                 wireless communication, we find that no inventive concept exists in the asserted claims
                 sufficient to transform the abstract idea of communicating status information about a
                 system into a patent-eligible application of that idea."

Representative claim: 1. A movable barrier operator comprising: a controller having a plurality of potential operational status conditions defined, at least in part, by a plurality of operating states;

a movable barrier interface that is operably coupled to the controller;

a wireless status condition data transmitter that is operably coupled to the controller, wherein the wireless status condition data transmitter transmits a status condition signal that:
corresponds to a present operational status condition defined, at least in part, by at least two operating states from the plurality of operating states; and

comprises an identifier that is at least relatively unique to the movable barrier operator, such that the status condition signal substantially uniquely identifies the movable barrier operator.

Practice tips and takeaways: Unfortunately, the court blurs a bit of 102/103 and 101 analysis here. The court reads out elements of the claim that it views as not novel and then finds that the remaining element is abstract. Be mindful of whether your new element(s) can be considered abstract. Ideally, you will have an argument that the new element(s) of the claims are eligible and not abstract.

Case link: http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-2103.Opinion.8-21-2019.pdf

Art Unit, Examiner: 2612, Donnie Crossland

Citation: Chamberlain Group Inc v Techtronic Industries Co., 935 F.3d 1341 (Fed. Cir. 2019)

Panelists: Lourie, O'Malley, Chen

ChargePoint Inc v SemaConnect Inc

Overview:	Ineligible: Precedential Appeal from the United States District Court for the District of Maryland. Rule 12(b)(6) stage. US Patent No. 8,138,715 describes and claims networking power stations for charging electric vehicles so that charging can be controlled in various ways, such as free charging by a restaurant, reduced charging at peak demand on the grid, supplying power to the grid, etc.
Discussion:	Ineligible - "determine whether the focus of claim 1, as a whole, is the abstract idea. As explained below, we conclude that it is." "The problem identified by the patentee, as stated in the specification, was the lack of a communication network that would allow drivers, businesses, and utility companies to interact efficiently with the charging stations. For example, the specification states that "[t]here is a need for a communication network which facilitates finding the recharging facility, controlling the facility, and paying for the electricity consumed."" "Claim 1 is directed to the abstract idea of communication over a network to interact with a device connected to the network." "Notably, however, the specification never suggests that the charging station itself is improved from a technical perspective, or that it would operate differently than it otherwise could." "Nor does the specification suggest that the invention involved overcoming some sort of technical difficulty in adding networking capability to the charging stations. " Significantly more/inventive concept not found. The only inventive concept "is the abstract idea itself" Part of that may be due to the extensive background that describes networks as being an essential part of electric vehicle systems. One way to look at this case is that the claims were interpreted as too broad and encompassing too much of electric vehicle networks. The background might have been used to invalidate the patent given such a broad claim interpretation.
Representative claim:	1. An apparatus, comprising: a control device to turn electric supply on and off to enable and disable charge transfer for electric vehicles; a transceiver to communicate requests for charge transfer with a remote server and receive communications from the remote server via a data control unit that is connected to the remote server through a wide area network; and a controller, coupled with the control device and the transceiver, to cause the control device to turn the electric supply on based on communication from the remote server. 2. The apparatus of claim 1, further comprising an electrical coupler to make a connection with an electric vehicle, wherein the control device is to turn electric supply on and off by switching the electric coupler on and off.
Practice tips and	Be careful regarding "need" statements. Here the court used a broad need statement in the application to characterize the invention: "the idea of network-controlled charging stations." Perhaps if the application had first described the problem as needing to program each charging station individually, leading to inflexibility and extra work, the result might have been different. The background section is very long, and describes that "As is clear from the previous discussion, communication networks are an essential part of electric vehicle recharging systems...."

Classen Immunotherapies, Inc. v. Biogen IDEC

Overview:	Appeal from the D. of Maryland - Decided August 31, 2011. US Patent No. 5,723,283 involved collecting and comparing known information. [1]
Discussion:	Two other patents in the case were held eligible because they involved an immunization step. Claim 1 in the '283 patent was held ineligible because no immunization step was required. Note that the claim actually recites comparing, does not require a computer to do the comparing, and lacks any step based on the comparison.
Representative claim:	1. A method of determining whether an immunization schedule affects the incidence or severity of a chronic immune-mediated disorder in a treatment group of mammals, relative to a control group of mammals, which comprises immunizing mammals in the treatment group of mammals with one or more doses of one or more immunogens, according to said immunization schedule, and comparing the incidence, prevalence, frequency or severity of said chronic immune-mediated disorder or the level of a marker of such a disorder, in the treatment group, with that in the control group.
Practice tips and takeaways:	See Electric Power tab. This case is often cited for the bare proposition that any claim that performs: "collecting and comparing known information" is not eligible. However, the claim does not require a computer, and does not perform any step based on the comparison. Other claims in this case that did perform the immunization step were found eligible. Thus, if your claim performs any step based on a comparison of collected data, Classen actually supports eligibility.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/06-1634-1649.pdf
Art Unit, Examiner:	1636, Nancy J. Leith
Citation:	[1] Classen Immunotherapies, Inc. v. Biogen Idec 659 F.3d 1057, 2011 U.S. App. LEXIS 18126, 100 U.S.P.Q.2d (BNA) 1492 (Fed. Cir. 2011).
Panelists:	Newman, Rader, Moore (dissent)

Core Wireless Licensing v. LG Electronics, Inc.

Overview: Appeal from E.D. Texas - Decided January 25, 2018

LG Electronics appealed the District Court decision which denied LG's motion for summary judgment of subject matter ineligibility under 35 USC 101 and denied LG's motion for JMOL that the claims are anticipated and not infringed. The Federal Circuit decision affirmed the district court.

Patents-at-Issue: US Patent No. 8,713,476, US Patent No. 8,434,020, US Patent No. 6,415,164

Federal Circuit Holding: The court affirmed the finding of subject matter eligibility under 35 USC 101.

Technology: A graphical user interface that includes an application summary window to display a limited set of information related to one or more applications without actually launching those application(s).

Discussion: The Federal Circuit indicated that "[t]he claim further requires the application summary window list a limited set of data, 'each of the data in the list being selectable to launch the respective application and enable the selected data to be seen within the respective application.'" [1] The application summary window restricts a type of data that can be displayed in the summary window, and the claim recites that the summary window "is displayed while the one or more applications are in an un-launched state". [2] "These limitations disclose a specific manner of displaying a limited set of information to the user, rather than using conventional user interface methods to display a generic index on a computer." [3] The Federal Circuit referenced the patent specifications and their teaching of problems associated with prior art interfaces. For example, users of prior systems had to "drill down through many layers to get to desired data or functionality [which] could seem slow, complex and difficult to learn, particularly to novice users." [4] In contrast, the claimed invention involves "[d]isplaying selected data or functions of interest in the summary window allows the user to see the most relevant data or functions without actually opening the application up." [5] To the Federal Circuit, this represented a specific improvement over conventional user interfaces and associated methods. Using the summary window to provide information about an application that is in an unlaunched state "saves the user from navigating to the required application, opening it up, and then navigating within that application to enable the data of interest to be seen or a function of interest to be activated." [6] The Federal Circuit noted that the specification indicated the claims provided an improvement in the function of computers with small screens and presented a certain limited set of information to a user in a particular manner. For the section 101 analysis, the Federal Circuit notes: "At step one, we must 'articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful.' ... We also ask whether the claims are directed to a specific improvement in the capabilities of computing devices, or, instead, 'a process that qualifies as an `abstract idea' for which computers are invoked merely as a tool.'" [7] The court found that the claims were not directed to an abstract idea under step one of the Alice test. Therefore, an analysis under step two to evaluate whether the claims recite something more need not be completed. [8]

Representative claim:	1. A computing device comprising a display screen, the computing device being configured to display on the screen a menu listing one or more applications, and additionally being configured to display on the screen an application summary that can be reached directly from the menu, wherein the application summary displays a limited list of data offered within the one or more applications, each of the data in the list being selectable to launch the respective application and enable the selected data to be seen within the respective application, and wherein the application summary is displayed while the one or more applications are in an un-launched state.
Practice tips and takeaways:	Consider describing in your specification what technical problems are found in prior user interfaces and how your claimed graphical user interface solves those problems with improved technology. It appears to be helpful to claim the structure and/or process for the improvement, not just a result of the improvement. Try being specific as to how particular elements of the claims improve functioning of the computer system.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/16-2684.Opinion.1-23-2018.1.PDF
Art Unit, Examiner:	2175, Thanh Vu (8,713,476 & 8,434,020); 2682, Charles Appiah (6,415,164)
Citations:	[1] Core Wireless Licensing S.A.R.L., v. LG Electronics, Inc., 880 F.3d 1356, 1362 (Fed. Cir. 2018). [2] *Id* . at 1363. [3] *Id* . [4] *Id* . [5] *Id* . [6] *Id* . [7] *Id* . at 1361-62. [8] *Id* . at 1363.
Panelists:	Moore, O'Malley, Wallach (cip/dip)

CosmoKey Solutions GMBH & Co. KG v. Duo Security LLC, FKA Duo Security Inc.

Overview: Appeal from the District of Delaware - Decided October 4, 2021

CosmoKey Solutions GmbH & Co. KG appeals the United States District Court for the District of Delaware's entry of judgment on the pleadings holding that the asserted claims of CosmoKey's U.S. Patent No. 9,246,903 are
ineligible under 35 U.S.C. § 101. The Federal Circuit decision reversed the district court.

Patent-at-Issue: US Patent No. 9,246,903

Federal Circuit Holding: The court reversed the finding of subject matter ineligibility under 35 USC 101.

Technology: A two-step authentication method that may be used when logging into a website.

Discussion: Briefly, the '903 patent describes a two-step authentication method that may be used when logging into a website. The claimed two-step authentication method includes specific features for implementing the invention including multiple communication channels, a mobile device having an authentication function, and user activation steps for said authentication function. At the District Court level, the court reasoned that at Alice step one the '903 claims are "directed to the abstract idea of verifying identity to permit access to transactions" and at Alice step two the '903 patent "merely teaches generic computer functionality to perform the abstract concept of authentication." [1]

The Federal Circuit disagreed and held the '903 patent claims as patent eligible, but the analysis by the justices varied.

Judges O'Malley and Stoll accepted the lower court's analysis of Alice step one and, therefore, moved directly on to Alice step two. Under Alice step two, the Court looked to the specification for the description of the specific improvement and to the claims for limitations that correspond to said improvement stating that the "claims and specification recite a specific improvement to authentication that increases security, prevents unauthorized access by a third party, is easily implemented, and can advantageously be carried out with mobile devices of low complexity." [1]

The opinion goes on to note that the district court erred in its interpretation of the '903 specification's characterization of the prior art and that the district court's cited passages, when read in context, "makes clear that the claimed steps were developed by the inventors, are not admitted prior art, and yield certain advantages over the described prior art." [1] Ultimately, the majority opinion concluded that the claims satisfy Alice step two and were patent eligible.

Judge Reyna provided a concurring opinion but with a different analysis of the '903 claims. He concluded that the claims at issue are directed to patent eligible subject matter under Alice step one. In his Alice step one analysis, Judge Reyna reiterated the McRO decision citing "'[T]he first step in the Alice inquiry in this case asks whether the focus of the claims

is on the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool.' … 'It is the incorporation of the claimed rules, not the use of the computer, that improved the existing technological process….'" [1]

Then, using the same evidence cited above in the majority opinion's Alice step two analysis, Judge Reyna concluded that the claims are patent eligible under Alice step one. In his view, the majority at the least conflated Alice steps one and two and at the worst skipped Alice step one and jumped straight to step two, which he states "turns the Alice inquiry on its head." The majority opinion does cite Amdocs, 841 F.3d at 1303 as precedence for adopting the lower court's Alice step one analysis and proceeding directly to step two. However, Judge Reyna explains that the majority opinion's Alice step two analysis is actually more in line with the Alice step one directed to analysis than with a step two transformative additional elements analysis. [1]

Representative claim:	1. A method of authenticating a user to a transaction at a terminal, comprising the steps of:
	
	  transmitting a user identification from the terminal to a transaction partner via a first communication channel,
	
	  providing an authentication step in which an authentication device uses a second communication channel for checking an authentication function that is implemented in a mobile device of the user,
	
	  as a criterion for deciding whether the authentication to the transaction shall be granted or denied, having the authentication device check whether a predetermined time relation exists between the
	transmission of the user identification and a response from the second communication channel,
	
	  ensuring that the authentication function is normally inactive and is activated by the user only preliminarily for the transaction,
	
	  ensuring that said response from the second communication channel includes information that the authentication function is active, and
	
	  thereafter ensuring that the authentication function is automatically deactivated.

Practice tips and takeaways:	The different analyses in the majority and concurring opinions further highlight the disparity in applying the Alice test to determine if claims meet the subject matter eligibility requirements. However, both analyses similarly rely heavily on the specification clearly outlining the improvement to the specific technology/application and the claims including specific limitations that make said improvement possible. This approach to an Alice analysis has been seen in a multitude of other decisions. Accordingly, patent applications for innovations that might run into subject matter eligibility hurdles during examination (and later litigation) should be drafted with sufficiently detailed specifications and with claims having specific limitations directly tied to an improvement for the specific technology/application.
Case link:	https://cafc.uscourts.gov/opinions-orders/20-2043.OPINION.10-4-2021_1843694.pdf

Art Unit, Examiner: 2434, Teshome Hailu

Citations: [1] CosmoKey Solutions GMBH & Co. KG v. Duo Security LLC, FKA Duo Security Inc., No.
2020-2043 (Fed. Cir. 2021).
[2] *Id* . at 1363.
[3] *Id* .
[4] *Id* .
[5] *Id* .
[6] *Id* .
[7] *Id* . at 1361-62.
[8] *Id* . at 1363.

Panelists: O'Malley, Reyna (concurring), Stoll

Customedia Technologies, LLC v. Dish Network Corporation

Overview:	Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board - Decided March 6, 2020 - US Patent Nos. 8,719,090 and 9,053,494, which share a specification, involving comprehensive data management and processing systems.

Discussion:

Alice Step 1: Customedia argues that the functionality of the computer is improved by dedicating a section of the computer's memory to advertising data. The Fed. Circ. disagrees stating that "Even if we accept Customedia's assertions, the claimed invention merely improves the abstract concept of delivering targeted advertising using a computer only as a tool. This is not what the Supreme Court meant by improving the functioning of the computer itself nor is it consistent with our precedent applying this concept." Further, "[t]he claims of the '090 and '494 patents do not enable computers to operate more quickly or efficiently, nor do they solve any technological problem. They merely recite reserving memory to ensure storage space is available for at least some advertising data. The specification is silent as to any specific structural or inventive improvements in computer functionality related to this claimed system." [1]

Alice Step 2: "Aside from the abstract idea of delivering targeted advertising, the claims recite only generic computer components, including a programmable receiver unit, a storage device, a remote server and a processor." [1] Further, in the specification, Customedia describes the storage device and receiver units and known in the art, and, accordingly, found by the Fed. Circ. to be generic and functional hardware.

Claims found ineligible under 101.

The Fed. Circ. disagreed with the Board's decision regarding 102 issues. However, because the 101 ineligibility was upheld, the opinion did not address the 102 issues.

Representative claim:

'090 Patent
1. A data delivery system for providing automatic delivery of multimedia data products from one or more multimedia data product providers, the system comprising:
a remote account transaction server for providing multimedia data products to an end user, at least one of the multimedia data products being specifically identified advertising data; and

a programmable local receiver unit for interfacing with the remote account transaction server to receive one or more of the multimedia data products and for processing and automatically recording the multimedia data products, said programmable local receiver unit including at least one individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data, said at least one advertising data storage section being monitored and controlled by said remote account transaction server and such that said specifically identified advertising data is delivered by said remote account transaction server and stored in said at least one individually controlled and reserved advertising data storage section.

Practice tips and takeaways:

If an argument for improvement of a computer's ability to function may be needed to overcome 101 rejections, the specification should have more detail than a generic computer's inherent ability.

CxLoyalty, Inc. v. Maritz Holdings, Inc.

Overview: U. S. Patent Number 7,134,087, directed to a system and method for permitting a customer of a loyalty program to redeem loyalty points for rewards offered by vendors without the need for human intervention. More specifically, a graphical user interface ("GUI") provides the interface for the participant (i.e., a customer) to communicate with a web-based vendor system, such as an airline-reservation system. An application programming interface ("API") interfaces with the GUI and the vendor system to facilitate information transfer between them.

CxLoyalty petitioned for a covered business method ("CBM") review of claims 1-15 of the '087 patent, which is owned by Maritz. The PTAB instituted CBM review and concluded that original claims 1-15 are ineligible for patenting under 35 U.S.C. § 101 but that proposed substitute claims 16-23 are patent eligible. CxLoyalty appealed the PTAB's ruling as to the substitute claims, and Maritz cross-appealed both the Board's determination that the '087 patent is eligible for CBM review and the Board's ruling as to the original claims.

Discussion: **Original Claims**:
Step 2A, Prong 1: Because representative claim 1 is directed to transfers of information relating to a longstanding commercial practice, the claim is directed to an abstract idea.

Step 2A, Prong 2: The claims amount to nothing more than applying the above-identified abstract idea using techniques that are, whether considered individually or as an ordered combination, well-understood, routine, and conventional. The claims apply the abstract idea on a computer by replacing the human intermediary with a GUI and API, but as the Board concluded, representative claim 1 "merely recites generic and conventional computer components (i.e., `processor,' `GUI,' and `API') and functionality for carrying out" the abstract idea.

Step 2B: The claimed invention does not improve the use of computers as a tool by reciting a new technological way for computers to conceal such information. Rather, the claims solve this purported problem by applying an abstract idea using conventional techniques specified in functional terms and at a high degree of generality.

Substitute Claims
Ineligible for the same reason as Original Claims.

Representative claim:	1. A computerized system for use by a participant of a program which awards points to the participant, wherein the awarded points are maintained in a point account for the participant, said system for permitting the participant to transact a purchase using the awarded points with a vendor system which transacts purchases in currency, said system comprising a processor including instructions for defining:
	an application programming interface (API) for interfacing with the vendor system;
	a program account hidden from the participant connected to the program for use in currency transactions;
	a graphical user interface (GUI) for providing an interface between the participant and the API and for communicating with the program;
	wherein said GUI includes instructions for receiving participant-related information from the participant and providing the received participant-related information to the API;
	wherein said GUI includes instructions for receiving information regarding the program account hidden from the participant and for providing the received program account information to the API;
	wherein said API is adapted to receive the participant-related information and the program account information from the GUI and adapted to provide the received participant-related information and the received program account information to the vendor system;
	wherein said API is adapted to receive vendor-related information from the vendor system and adapted to provide the received vendor-related information to the GUI; and
	wherein said GUI includes [i]nstructions for receiving vendor-related information from the API and for providing the received vendor-related information to the participant;
	such that from the perspective of the participant, the participant uses the GUI to conduct a purchase transaction with the vendor system based in whole or in part on the points in the participant's point account; and
	such that from the perspective of the vendor system, the vendor system conducts the purchase transaction with the participant as a currency transaction based on the program's program account hidden from the participant whereby the participant is not aware that the purchase transaction with the vendor system is being transacted using program account.
	16 (replaces claim 1): A computerized system for use by [[a]] participants of a program which awards points to the participants, wherein the awarded points for each participant are maintained in a point account for the respective participant, said system for permitting [[the]] each participant to transact a
Practice tips and takeaways:	Adding language to the specification to provide a basis for the argument that this is more than automation of a previously known process. Further adding claim elements that would show why the claims could not have been performed by a human would also be helpful.
Case link:	https://cafc.uscourts.gov/opinions-orders/20-1307.opinion.2-8-2021_1729377.pdf
Art Unit, Examiner:	Art Unit: 2173; Examiner: Vu, Kieu D.
Citation:	CXLOYALTY, INC., Appellant v. MARITZ HOLDINGS INC., Cross-Appellant 986 F.3d 1367 (2021)
Panelists:	Before PROST, Chief Judge, LOURIE and HUGHES, Circuit Judges.

CyberSource Corporation v. Retail Decisions, Inc.

Overview:
Appeal from the N.D. of California - Decided August 16, 2011. US Patent No. 6,029,154 involved obtaining and comparing intangible data. [1]

Discussion:
CyberSource involved a method of obtaining IP addresses of transactions and constructing a map of credit card numbers based on other transactions and using the map to determine if a credit card transaction is valid. The court indicated this claim simply obtains and compares intangible data pertinent to business risk. Note that nothing is done with the comparison. The court noted that the claims appeared to attempt to cover all methods of detecting credit card fraud, and went to efforts to simplify the claim claimed generation of a map by indicating it could be a simple list of credit card numbers.

Representative claim:
2. A computer readable medium containing program instructions for detecting fraud in a credit card transaction between a consumer and a merchant over the Internet, wherein execution of the program instructions by one or more processors of a computer system causes the one or more processors to carry out the steps of:
a) obtaining credit card information relating to the transactions from the consumer; and

b) verifying the credit card information based upon values of a plurality of parameters, in combination with information that identifies the consumer, and that may provide an indication whether the credit card transaction is fraudulent, wherein each value among the plurality of parameters is weighted in the verifying step according to an importance, as determined by the merchant, of that value to the credit card transaction, so as to provide the merchant with a quantifiable indication of whether the credit card transaction is fraudulent, wherein execution of the program instructions by one or more processors of a computer system causes the one or more processors to carry out the further steps of;

obtaining other transactions utilizing an Internet address that is identified with the credit card transaction;

constructing a map of credit card numbers based upon the other transactions; and

utilizing the map of credit card numbers to determine if the credit card transaction is valid.

Practice tips and takeaways:
CyberSource involved a method of verifying validity of credit card transactions over the Internet and has been characterized in MPEP 2106 as "insignificant extrasolution activity" and "mere data gathering." Characterize it as a business method. Point out that claims in Classen (often cited with CyberSource) that included immunization were found eligible. Point out how you claims actually do something, similar to the claims that were allowed in Classen. Argue that your claims are not related to any form of business method like CyberSource, but instead describe a technical solution to a technical problem. CyberSource is very limited to its facts and does not stand for the proposition that any case that collects and compares data in addition to other elements should be found ineligible.

Case link:
http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/09-1358.pdf

Art Unit, Examiner:
2765, Susanna M. Meinecke Diaz

Citation: [1] CyberSource Corp. v. Retail Decisions, Inc. 654 F.3d 1366, 2011 U.S. App. LEXIS 16871, 99 U.S.P.Q.2d (BNA) 1690 (Fed. Cir. 2011).

Panelists: Dyk, Prost, Bryson

Data Engine Technologies LLC v Google LLC

Overview:

Precedential. Appeal from entry of judgment on the pleadings from the United States District Court for the District of Delaware. Claims of U.S. Patent Nos. 5,590,259; 5,784,545; 6,282,551; and 5,303,146 are directed to patent-eligible subject matter, not abstract, directed to a specific improved method for navigating through complex three-dimensional electronic spreadsheets. Court also found other claims directed to abstract idea of collecting, recognizing, and storing changed information and that these were not eligible. [1]

Discussion:

Court found the asserted claims to be directed to patent-eligible subject matter. Spreadsheets were not easy to use and not user friendly.

The claims were directed to a specific method for navigating through three-dimensional electronic spreadsheets. The patent solved a known technological problem in computers in a particular way - by providing a highly intuitive, user-friendly interface with familiar notebook tabs for navigating the three-dimensional worksheet environment.

Representative claim:

12. 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.

Practice tips and takeaways:	Focus your claims and your specification on discussing how computers' functionality is improved.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/17-1135.Opinion.10-9-2018.pdf
Art Unit, Examiner:	Joseph H. Feild
Citations:	[1] Data Engine Technologies LLC v. Google LLC, 906 F.3d 999 (Fed. Cir. 2018)
Panelists:	Reyna, Bryson, Stoll

DDR Holdings, LLC v. Hotels.com, L.P.

Overview:

Appeal from E.D. Texas - Decided December 5, 2014

DDR Holdings, LLC sued multiple parties for infringement of US Patent No. 6,993,572 and other patents. The '572 patent was found eligible and infringed. Affirmed as the claims recite significantly more, reciting a claimed solution that "is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks. Mayer dissents, indicating the abstract concept is : "an online merchant's sales can be increased if two web pages have the same "look and feel".   Only a generic computer is used to apply that concept. [1]

Discussion:

The majority recites several of the proposed abstract ideas, and indicates it does not matter which one is used, as the claims recite significantly more than an abstract idea: "Instead, the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." Conventional function of a computer when clicking on a link would direct someone away from the host website, not generate a hybrid page. Elements in claim 13 are referenced to support that view, including constructing and serving a hybrid web page that merges content from the vendor's page and includes elements from the host website. The dissent's view that it is the same concept as a kiosk in store is debunked by indicating one is not "suddenly and completely transported outside the warehouse store." No preemption is mentioned but not relied upon. Other cases (Alice, Ultramercial, buySAFE, Accenture, and Bancorp) are distinguished based on the claims not reciting "a commonplace business method aimed at processing business information, applying a known business process to the particular technological environment of the Internet, or creating or altering contractual relations using generic computer functions and conventional network operations."

Representative claim: Claim 13. 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 a look and feel based on the look and feel description in the data store and with content based on the commerce object associated with the link.

Practice tips and takeaways:

Consider characterizing a technical problem/solution in a technical manner in terms of the infrastructure used to implement the idea when drafting the application, or look for same

infrastructure used to implement the idea when drafting the application, or look for same during prosecution/assertion. Avoid as much as possible (but not entirely) discussing the business problem addressed by the invention. Try to include at least some examples in the specification that are not related to a business process. In DDR, an additional example could have been related to searching for information on different websites and integrating the data into an original website with the same look and feel.

Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/13-1505.Opinion.12-3-2014.1.PDF
Art Unit, Examiner:	2145, Jason Cardone
Citations:	[1] DDR Holdings, LLC v. Hotels.com, L.P. 773 F.3d 1245, 2014 U.S. App. LEXIS 22902, 113 U.S.P.Q.2d (BNA) 1097 (Fed. Cir. 2014).
Panelists:	Chen, Wallach, Mayer (dissent)

Digitech Image Technologies, LLC v. Electronics for Imaging, Inc.

Overview:	Appeals from the C.D. of California - Decided July 11, 2014. US Patent No. 6,128,415 involved organizing and manipulating information through mathematical correlation. [1]
Discussion:	The claims are to a device profile and a method of generating a device profile. Nuijten is cited as support for not allowing a claim to just data, as the data was characterized as broader than even a signal. A profile alone is not tangible and hence not one of the statutory categories.
Representative claim:	1. A device profile for describing properties of a device in a digital image reproduction system to capture, transform or render an image, said device profile comprising: first data for describing a device dependent transformation of color information content of the image to a device independent color space; and
	second data for describing a device dependent transformation of spatial information content of the image in said device independent color space.
Practice tips and takeaways:	See Electric Power Tab - Make sure you have a claim that uses the profile. In this case, the profile helped solve a technical problem, and a claim using the profile to capture both spatial and color properties of an imaging device to provide a better output on a display device would have had a much better chance. Also, if claiming a data structure, make sure to disclose and claim a tangible - non-transitory medium on which the profile/data structure is stored.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/13-1600.Opinion.7-9-2014.1.PDF
Art Unit, Examiner:	2721, Daniel G. Mariam
Citation:	[1] Digitech Image Techs., LLC v. Electronics for Imaging, Inc. 758 F.3d 1344, 2014 U.S. App. LEXIS 13149, 111 U.S.P.Q.2d (BNA) 1717, 2014 WL 3377201 (Fed. Cir. 2014).
Panelists:	Reyna, Moore, Hughes

Electric Power Group, LLC v. Alstom S.A.

Overview:	Appeal from C.D. California - Decided August 1, 2016. US Patent No. 8,401,710 involved collecting information, analyzing it, and displaying certain results of the collection and analysis - Technology: Receives lots of information from other sources related to a power grid, analyzes, and displays information about the grid. Quote: Though lengthy and numerous, the claims do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology. The claims, defining a desirable information-based result and not limited to inventive means of achieving the result, fail under § 101. [1]
Discussion:	- Technology: Receives information from other sources related to a power grid, analyzes, and displays information about the grid. Quote: "Though lengthy and numerous, the claims do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology." [2] The claims, defining a desirable information-based result and not limited to inventive means of achieving the result, fail under § 101.
Representative claim:	12. 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.

| Practice tips and takeaways: | Electric Power is used quite often by examiners in rejections. The examiners only cite the cases that they are briefed on in training. The 101 training materials identify such cases (Chart: https://www.uspto.gov/sites/default/files/documents/ieg-qrs.pdf; Training Materials: https://www.uspto.gov/patent/laws-and-regulations/examination-policy/training-materials-subject-matter-eligibility).   How to argue against: Attack the identification of the abstract idea: As instructed in the May 4, 2016 Memorandum at page 3:   Examiners should be familiar with any cited decision relied upon in making or maintaining a rejection to ensure that the rejection is reasonably tied to the facts of the case and to avoid relying upon language taken out of context. Examiners should not go beyond those concepts that are similar to what the courts have identified as abstract ideas. |

Use the McRo, Enfish, and Berkheimer memos

Argue a technical solution to a technical problem, clearly identifying why the problem and the solution are technical in nature.

Recite and emphasize generation of new information that did not previously exist, which sets up an analogy to Enfish.

Recite and emphasize user interactivity that improves data presentation, which sets up an analogy to Core Wireless.

Point to a particular inventive technological process to distinguish from Electric Power.

The claims in Electric Power Group failed to assert any particular inventive technology. To be sure, the Federal Circuit similarly distinguished the claims in Trading Technologies Inc. v.

be sure, the Federal Circuit similarly distinguished the claims in Trading Technologies Inc. v. CQG, Inc. (hereinafter Trading Technologies), as follows:

The claims in Electric Power Group failed to assert any particular inventive technology. To be sure, the Federal Circuit similarly distinguished the claims in Trading Technologies Inc. v. CQG, Inc. (hereinafter Trading Technologies), as follows:
"Claims directed to the "process of gathering and analyzing information of a specified content, then displaying the results," without "any particular assertedly inventive technology for performing those functions," were held ineligible in Electric Power Grp., LLC v. Alstom S.A., 830 F.3d 1350, 1354 (Fed. Cir. 2016)

Indeed, Electric Power Group qualified its own holding, as follows:
And we have recognized that merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.

Broadest reasonable interpretation: Argue that the interpretation of the claims is unreasonable.

Argue that the claims have been over simplified and improperly characterized broadly as "collecting information, analyzing it, and displaying certain results of the collection and analysis" in an attempt to compare the claims to Electric Power Group. The claims in Enfish and McRo may be similarly over simplified and broadly characterized, but instead, the claims were found eligible. In both DDR Holdings and McRO the claims were found eligible under § 101 by the courts. Thus, reciting elements that can be reduced to a summary of collecting information, analyzing information, and providing certain results is insufficient to render a claim ineligible under § 101. Yet, this is what the Examiner has done. The Examiner has removed any of the actual recited elements until the caricature of the claim elements meets the notion of an abstract idea.

Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/15-1778.Opinion.7-28-2016.1.PDF
Art Unit, Examiner:	2121, M. N. Von Buhr
Citations:	[1] Electric Power Group, LLC v. ALSTOM SA, 830 F. 3d 1350. (Fed. Cir. 2016) [2] *Id* . at 1351.
Panelists:	Taranto, Bryson, Stoll

Enfish, LLC v. Microsoft Corp.

Overview:	Appeal from C.D. California - Decided May 12, 2016. US Patent Nos. 6,151,604 and 6,163,775 involved a self-referential database. [1]
	Enfish is a 2016 Federal Circuit decision in which the court, for the second time since the United States Supreme Court decision in *Alice Corp. v. CLS Bank* upheld the patent–eligibility of software patent claims. In particular, the Federal Circuit reversed a district court ruling that Enfish's asserted software claims directed to a database using a self-referential table were ineligible under § 101 and also vacated the lower court's holding that some of the claims were invalid as anticipated.
Discussion:	In *Enfish* , the Federal Circuit reversed the district court's grant of summary judgment, which found the claims of US Patent Nos. 6,151,604 and 6,163,775 not patent eligible under 35 U.S.C. § 101. In reversing, the court held, among other rulings, that the claims were not directed to an abstract idea under the first step of the *Alice* test (Step 2A). The court explained that this first step "is a meaningful one" and "cannot simply ask whether the claims involve a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions involves a law of nature and/or natural phenomenon—after all, they take place in the physical world." Rather, the inquiry must consider whether the claims' "character as a whole is directed to excluded subject matter." The court then stated, "[w]e do not read *Alice* to broadly hold that all improvements in computer-related technology are inherently abstract" and noted that software can "make non-abstract improvements to computer technology just as hardware improvements can" under *Alice* . The '604 and '775 patents claim a logical model for a computer database. A logical model is a system for a computer database that explains how the various elements of information in the database are related to one another. Contrary to conventional logical models, *Enfish* 's logical model includes all data entities in a single table, with column definitions provided by rows in that same table. The patents describe this as the "self-referential" property of the database.
Representative claim:	17. (6,151,604 Patent) 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.
Practice tips and takeaways:	The *Enfish* decision confirms that improvements in computer-related technology are not always, by definition, abstract ideas under the first step of the *Alice* test. Thus, applicants may wish to consider identifying the improvement offered by the claimed invention and inquiring as to whether that improvement represents a specific improvement to the technology itself.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/15-1244.Opinion.5-10-2016.1.PDF

Art Unit, Examiner: 2161, Apu Mofiz

Citations: [1] Enfish, LLC v. Microsoft Corp., 822 F. 3d 1327 (Fed. Cir. 2016).

Panelists: Hughes, Taranto, Moore

Exergen Corporation v. Kaz USA Inc.Overview:

Overview: Nonprecedential. Appeal from U.S. District Court for the District of Massachusetts - Decided March 8, 2018. US Patent Nos. 6,292,685 and 7,787,938 directed to a "body temperature detector" and "method of determining human body temperature" . [1]

The Federal Circuit in Exergen upheld the patent-eligibility of the patent claims. In particular, the Federal Circuit found that even though the patents are "directed to the measurement of a natural phenomenon (core body temperature)....the measurement method here was not conventional, routine, and well-understood" under step two of the Mayo/Alice test.

This opinion is nonprecedential but still provides useful insights for practice tips for drafting specification and claims that may avoid abstract subject matter rejection under 35 U.S.C. § 101 as being directed to a natural phenomenon.

Discussion: In Exergen, the Federal Circuit upheld the district court's decision, finding the claims of US Patent Nos. 6,292,685 and 7,787,938 patent eligible under 35 U.S.C. § 101. Under step one of the Mayo/Alice test, the Court found that there was "no dispute in this case that the asserted claims employ a natural law to achieve their purpose [as] the claims recite a 'method of detecting human body temperature' and 'a body temperature detector.'" But the Court held "[e]ven if the concept of such [body temperature] measurement is directed to a natural phenomenon and is abstract at step one [of the Mayo/Alice test], the measurement method here [in the patent claims] was not conventional, routine and well-understood [under the Mayo/Alice test step two]."

The Court explained that "following years and millions of dollars of testing and development, the inventor determined for the first time the coefficient representing the relationship between temporal-arterial temperature and core body temperature and incorporated that discovery into an unconventional method of temperature measurement" that was supported in the specification with "mathematical equations to calculate core temperature based on ambient and skin temperature readings". The Court concluded that this satisfied the second step of Mayo/Alice as "the patent incorporated an inventive concept" in which the inventor "transformed the process into an inventive application of the formula."

The Court further concluded that the district court's "fact finding" with "cited evidence presented at trial and from the patent specifications" was "not clearly erroneous" and supported the conclusion that "the claimed combination" was not well-understood, routine, and conventional.

Representative   Claim 49 which depends from claim 48 of the US 6,292,685 patent, an apparatus claim, recites:
48. A body temperature detector comprising:
     a radiation detector; and

     electronics that measure radiation from at least three readings per second of the radiation detector as a target skin surface

over an artery is viewed, the artery having
a relatively constant blood flow, and that
process the measured radiation to provide
a body temperature approximation, distinct
from skin surface temperature, based
on detected radiation.

49. The body temperature detector of claim 48 wherein the artery is a temporal artery.

Claim 24, which depends from claim 14, of the US 7,787,938 patent, a method claim, recites:

14. A method of detecting human body temperature comprising making at least three radiation readings per second while moving a radiation detector
to scan across a region of skin over an artery to electronically determine a body temperature approximation, distinct from skin
surface temperature.

24. The method of claim 14 wherein the artery is a temporal artery.

Practice tips and takeaways:	The Exergen decision confirms that even if claims are deemed abstract as employing a natural law or directed to a natural phenomenon under the first step of the Mayo/Alice test, individual limitations in the claim or the combination of the claim limitations as a whole may support an inventive concept under the second step of the Mayo/Alice test. But an inventor should add sufficient details in the specification (such as his/her mathematical equations) that support the derivation of their formula or algorithm, and the unconventional application of that formula or algorithm as claimed.
	This practice tip for avoiding a 35 U.S.C. § 101 rejection under Mayo/Alice test step 2 is applicable to software-related inventions too where the application of a particular algorithm should be well supported in the specification to emphasize that steps or aspects of the application of the algorithm are not well known or conventional.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/16-2315.Opinion.3-6-2018.1.PDF
Art Unit, Examiner:	3737, Jeoyuh Lin (US 6,292,685); 3768, Jacqueline Cheng (US 7,787,938)
Citations:	[1] Exergen Corporation v Kaz USA Inc , 725 Fed.Appx. 959 (Fed. Cir. 2018) (emphasis added).
Panelists:	Moore, Bryson and Hughes

Fairwarning IP, LLC v. Iatric Systems, Inc.

Overview:	Appeal from the M.D of Florida - Decided October 11, 2016. US Patent No. 8,578,500 involved collecting and analyzing information to detect misuse and notifying a user when misuse is detected. [1]
Discussion:	- Technology/quote: According to the specification, pre-existing systems were able to record audit log data concerning user access of digitally stored PHI (personal health information). The claimed systems and methods record this data, analyze it against a rule, and provide a notification if the analysis detects misuse... FairWarning's claims merely implement an old practice in a new environment.
Representative claim:	1. A method of detecting improper access of a patient's protected health information (PHI) in a computer environment, the method comprising: generating a rule for monitoring audit log data representing at least one of transactions or activities that are executed in the computer environment, which are associated with the patient's PHI, the rule comprising at least one criterion related to accesses in excess of a specific volume, accesses during a pre-determined time interval, accesses by a specific user, that is indicative of improper access of the patient's PHI by an authorized user wherein the improper access is an indication of potential snooping or identity theft of the patient's PHI, the authorized user having a pre-defined role comprising authorized computer access to the patient's PHI; applying the rule to the audit log data to determine if an event has occurred, the event occurring if the at least one criterion has been met; storing, in a memory, a hit if the event has occurred; and providing notification if the event has occurred.
Practice tips and takeaways:	Consider making sure your claims do something with the information that is collected beyond merely providing a notice that an event has occurred. As in Classen's eligible claims that actually call for immunization to be performed, modify your claims to perform something beyond just a notification.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/15-1985.Opinion.10-6-2016.1.PDF
Art Unit, Examiner:	2495, Lisa C. Lewis
Citation:	[1] FairWarning IP, LLC v. Iatric Sys. 839 F.3d 1089, 2016 U.S. App. LEXIS 18313, 120 U.S.P.Q.2d (BNA) 1293 (Fed. Cir. 2016).
Panelists:	Stoll, Plager, Lourie

Finjan, Inc. v. Blue Coat Systems, Inc.

Overview:	Appeal from the United States District Court for the Northern District of California. Finjan sued in Northern District of California on multiple patents and received a jury award of about $39.5 Million. US Patent No. 6,154,844 eligibility is discussed in the CAFC opinion. The claims were found eligible. Decided January 10, 2018. [1]
Discussion:	A security profile identifies code in an inspector received downloadable that performs hostile or potentially hostile operations. The security profile is linked to the downloadable before the downloadable is made available to web clients. The claims were construed by the district court to be more specific than the plain language of the claim, and that construction was used by the Federal Circuit. The construction may have helped overcome a "too high a level of generality" attack. The claim was found to do a "good deal more" than a virus scan on an intermediary computer that was found conventional in *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F. 3d 1307, 1319 (Fed. Circ. 2016). Found eligible at Step 1 and compared favorably to Enfish "as it enables a computer security system to do things that it could not do before."
Representative claim:	Claim 1: A method comprising: receiving by an inspector a Downloadable; generating by the inspector a first Downloadable security profile that identifies suspicious code in the received Downloadable; and linking by the inspector the first Downloadable security profile to the Downloadable before a web server makes the Downloadable available to web clients.
Practice tips and takeaways:	Creating a new data structure based on conventional activity (virus scanning) can satisfy the second, significantly more, prong of the Alice test, provided your claims recite more than just the result. Include specific steps that accomplish the result. Include clear description of these steps and the claim language used so that an unreasonably broad interpretation of claim terms can be traversed by pointing to the specification. If post USPTO, ensure the claim construction includes the specific steps.
Case Link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/16-2520.Opinion.1-8-2018.1.PDF
Art Unit, Examiner:	2785, Christopher Revak
Citations:	[1] Finjan, Inc. v. Blue Coat Systems, Inc., 879 F. 3d 1299 (Fed. Cir. 2018).
Panelists:	Dyk, Linn, Hughes

Free Stream Media Corp. v Alphonso Inc.

Overview:	Appeal from N.D. California - Decided May 11, 2021. The Federal Circuit reversed the district court's holding that the claims in U.S. Patent No. 9,386,356 were eligible subject matter under 35 U.S.C. § 101. The claims in this case were not directed to an abstract idea of tailored advertising as argued by the defendants, but instead described systems and methods for addressing barriers to certain types of information exchange between various technological devices. The Federal Circuit reversed, finding the claims were directed to the abstract idea of targeted advertising and that the abstract idea is simply implemented using conventional components and functions generic to the technology. [1]
Discussion:	The Federal Circuit noted that it was asserted that the invention allows devices on the same network to communicate where such devices were previously unable to do so. The asserted claims provide for how that is achieved by only stating that the mechanism used to achieve this communication is by piercing or otherwise overcoming a mobile device's security sandbox. However, the asserted claims do not describe how that result is achieved. The mechanism recited in the specification for how this is achieved (using a computer security vulnerability or relaxing a rule without intervention from the user of the device) is not described in the claims.
Representative claim:	1. A system comprising: a television to generate a fingerprint data; a relevancy-matching server to: match primary data generated from the fingerprint data with targeted data, based on a relevancy factor, and search a storage for the targeted data; wherein the primary data is any one of a content identification data and a content identification history; a mobile device capable of being associated with the television to: process an embedded object, constrain an executable environment in a security sandbox, and execute a sandboxed application in the executable environment; and a content identification server to: process the fingerprint data from the television, and communicate the primary data from the fingerprint data to any of a number of devices with an access to an identification data of at least one of the television and an automatic content identification service of the television.
Practice tips and takeaways:	Any arguments against a determination of an abstract idea must actually be limitations in the claims and not just described in the specification. Further, the result cannot simply be claimed, but how that result is achieved.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/19-1506.OPINION.5-11-2021_1776030.pdf
Art Unit, Examiner:	2444, Serrao, Ranodhi
Citations:	[1] Free Stream Media Corp v. Alphonso Inc., No. 19-1506 (Fed. Cir. 2021)
Panelists:	Dyk, Reyna (wrote opinion), Hughes

Glasswall Solutions Limited v. Clearswift Ltd.

Overview:	Court affirmed district court decision from U.S. District Court for the Western District of Washington that U.S. Patent Nos. 8,869,283 and 9,516,045 are invalid as patent ineligible abstract ideas under 35 U.S.C. 101. [1]

Discussion:

The court found that the district court's characterization of the claims as being directed to filtering was correct and that filtering is abstract. The claims did not purport to claim how the invention receives an electronic file, how it determines the file type, how it determines allowable content, how it extracts all the allowable data, how it creates a substitute file, how it parses the content according to predetermined rules into allowable and nonconforming data, or how it determines authorization to receive the non conforming data. Instead the claims are framed in wholly functional terms. Court found the claims similar to the claims in Intellectual Ventures I LLC v. Symantec Corp.(Fed. Cir. 2016). The claims simply require generic computer-implemented steps.

Claims are unlike in Finjan - the claims do not filter based on behavior, but based on the allowable form of information in a file. It does not allow the computer to do something it could not previously do.

Representative claim:

1. A method for processing an electronic file to create a substitute electronic file containing only allowable content data, the method comprising: receiving an electronic file containing content data encoded and arranged in accordance with a predetermined file type;

determining a purported predetermined file type of the received electronic file and an associated set of rules specifying values or range of values of allowable content data;

determining at least an allowable portion of the content data that conforms with the values or range of values specified in the set of rules corresponding to the determined purported predetermined file type;

extracting, from the electronic file, only the at least an allowable portion of content data;

creating a substitute electronic file in the purported file type, said substitute electronic file containing only the extracted allowable content data;

forwarding the substitute regenerated electronic file only if all of the content data from within the electronic file conforms to the values or range of values specified in the set of rules; and

forwarding the incoming electronic file if a portion, part or whole of the content data does not conform only when the intended recipient of the electronic file has pre-approved the predetermined file type when associated with the sender of electronic file.

Practice tips and takeaways:

The court found that the claims do not create a new kind of file or improve the functioning of the computer itself. It is important to frame the invention as something a computing device could not previously do.
Glasswall argued that its methods were novel and improved the technology used in electronic communications - this is not enough.

Case link:

http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1407.Opinion.12-20-2018.pdf

Art Unit, Examiner: 2439, Jenise Jackson

Citations:

[1] Glasswall Solutions Limited, Glasswall (IP) Limited v. Clearswift Ltd., 754 Fed.Appx. 996 (Fed. Cir. 2018)

Panelists: Lourie, Linn, Taranto

iLife Technologies, Inc. v. Nintendo of America, Inc.

Overview:

Non-precedential case. Court affirmed Northern District of Texas Court decision of rejection of claim 1 of U.S. Patent No. 6,864,796, finding the claim is unpatentable because it is directed to patent-ineligible subject matter under 35 U.S.C. §101.

The claimed technology "is directed to a motion detection system that evaluates relative movement of a body based on both dynamic acceleration (e.g., vibration, body movement) and static acceleration (i.e., the position of a body relative to earth)." [1]

Discussion:

Despite a jury verdict finding that Nintendo infringed iLife's patent, following Ninetendo's JMOL motion, the District court held "that claim 1 was directed to the abstract idea of 'gathering, processing, and transmitting information' and failed to recite an inventive concept." [2]

Under step one of the *Alice* test, the Federal Circuit agrees with the district court that claim 1 is directed to abstract subject matter, stating that claim 1 failed "to provide any concrete detail for performing the associated functions [and] merely amounts to a system capable of sensing information, processing the collected information, and transmitting processed information". [3] In contrast to the Federal Circuit's decisions in *Thales Visionix* and *Cardio-Net,* the Federal Circuit found "claim 1 of the '796 patent is not focused on a specific means or method to improve motion sensor systems, nor is it directed to a specific physical configuration of sensors."[4]

However, the Court found the district court erred in considering whether the claim elements were conventional at *Alice* test step one, stating that "the conventionality of the claim elements is only considered at [*Alice* test] step two". [5]

But the Court ultimately found that claim 1 did not have an inventive concept sufficient to transform the claims into patent-eligible subject matter under Alice step two, ruling that "the claim recites only generic computer components, including a sensor, a processor, and a communication device," which the decription of these elements in the specification "confirms they are generic." [6]

Representative claim:

1. A system within a communications device capable of evaluating movement of a body relative to an environment, said system comprising:

a sensor, associable with said body, that senses dynamic and static accelerative phenomena of said body, and

a processor, associated with said sensor, that processes said sensed dynamic and static accelerative phenomena as a function of at least one accelerative event characteristic to thereby determine whether said evaluated body movement is within environmental tolerance

wherein said processor generates tolerance indicia in response to said determination; and

wherein said communication device transmits said tolerance indicia.

Practice tips and takeaways:	This is another case associated with the Fed Circuit's Elec. Power Grp. holding. However, the Fed. Circuit did find that the district court erred to the extent that "it incorporated conventionality of claim elements at step 1" of the Alice test, stating that analysis of the claim elements, individually and an ordered combination is part of Alice step 2. Under Alice step 2, the claim may still be found eligible "when the claim elements "involve more than performance of 'well-understood, routine, [and] conventional activities previously known to the industry.'" Thus, even though the Fed. Circuit still found that the claim elements failed to recite an inventiive concept, this case emphasizes the importance of adding further support in the specification for how the arrangement or configuration of otherwise conventional or generic components (e.g., a sensor, a processor and a communication device) is a distinguishing improvement that satisfies the inventive concept of Alice/Mayo step 2 (e.g.., with reference to this case, recite and support claims with "unconventional means or method for configuring or processing [the sensed] information to distinguish body movement based on dynamic and static acceleration." [7])
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/20-1477.OPINION.1-13-2021_1716793.pdf
Art Unit, Examiner:	2632, Tai T Nguyen
Citations:	[1] iLife Technologies, Inc. v. Nintendo of America, Inc., No. 20-1477(Fed. Cir. 2021) [2] *Id* . at pg. 3. [3] Id. at pg. 4. [4] Id. at pg. 5. [5] Id. [6] Id. at pg. 6-7. [7] Id. at pg. 6.
Panelists:	Moore, Reyna, and Chen

In Re: Robert E. Downing

Overview: Court affirmed PTAB decision affirming Examiner's decision of rejection of claims 1, 2, 7, and 9 of U.S. Application No. 12/454,528, which includes all pending claims as unpatentable because they are directed to patent-ineligible subject matter, lacking adequate written description support, and indefinite. [1]

Discussion: Examiner found the claims to be directed to the abstract idea of creating an electronic spreadsheet for personal management. The Board found that the claims were directed to the abstract idea of "personal management" or "resource planning" under Alice step one. The Board determined that under Alice step two, the remaining claim limitations recited nothing more than generic computer components, which were insufficient to transform the abstract concept into patent-eligible subject matter. The claims recited the use of Excel - which is a known and conventional computer platform and other generic computing components performing routine and conventional computer functions.

The court found that the claims as a whole are directed to the concept of personal management, resource planning, or forecasting and directed to an abstract idea. In addition, the court found that the claims did not have an inventive concept sufficient to transform the claims into patent-eligible subject matter under Alice step two.

Representative claim: 1. A resource planning forecast product operable in a computer and recorded on a non-transitory computer-readable medium for retrieval interlinking non-business or business information relevant to the end user without mandatory reliance on a network or another computer file or Internet access to operate wherein the product is produced by processes of:

(a) designing a diffusion-based proprietary forecasting technique on an Excel computer platform for operation within a resource planning framework to:

(1) simplify forecasting initialization with defaults option and exclusion of advanced statistical requirements in forecasting,

(2) consider social and technological change,

(3) make forecasts of operations and development and strategic plans of 1-5-15 years simultaneously, and

(4) provide automatic updates reducing manual operations and storage requirements such that this process taken in combination improves the end user's ease of operation and assessments;

(b) structuring presentations on the same computer platform by linking display of the forecasted data with features of:

(1) additional resource planning applications beyond the typical such as an information resource utility and intangibles,

(2) adjacent display of the operations and development and strategic plans' 1-5-15 year forecasts, and

(3) comprehensive print views available simultaneously of forecasted activity reports, resource plans, and yearly performance next 15 years such that this process taken in combination expands the utility of resource planning in the field of forecasting;

and (c) constructing one-time settings for the structure, on the same computer platform, for the capability of accommodating the full extent of resource planning cited and more efficient operation by: (1) fixed display of self-explanatory instructions and definitions, (2) only 4 required settings of initializing diffusion indices, starting calendar date, nonfinancial or financial mode, and the names for activity reports, resource plans, and optional information reports, and (3) optional settings related to goals-objective-missions, allocations, and risk-impact data such that this process taken in combination improves the end users' ease of use and availability of forecasted resource planning applications; such that this product's capabilities and features accommodate the full extent of resource types and resource planning (encompassing the five categories of planning noted) for operation by nontechnical or technical users in one unbundled computer file through end user interaction with displays.

Practice tips and takeaways:	Unlike in McRo and DDR Holdings, the claims did not include an improvement and did not claim an improvement in Excel spreadsheets or and improved resource planning computer technology.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1795.Opinion.12-7-2018.pdf
Art Unit, Examiner:	3627, Luna Champagne
Citations:	[1] In re Downing, 754 Fed.Appx. 988 (Fed. Cir. 2018)
Panelists:	Lourie, Bryson, Dyk

In Re: Brian Gale

Overview: Non-precedential opinion. Decided May 18, 2021. Court affirmed PTAB decision affirming Examiner's rejection of the pending claims of U.S. Application No. 12/408,686 (the "686 application") as unpatentable because they are "directed to an abstract idea and lack an inventive concept" under 35 U.S.C. § 101. Claims are "directed to monitoring and assembling metadata related to critical test result delivery systems in the medical field." [1]

Discussion: Under *Alice* step one, the Court agreed with the Board that the 686 application "claims are directed to the abstract idea of (1) collecting information (here, receiving messages and reading their metadata), (2) analyzing the information (here, calculating a usage pattern and determining its compliance with a predetermined usage pattern), and (3) reporting the results" citing the Court's opinions for similar patent claims in *Elec. Power Grp* and other cases.   The Court also agree with the Board that, under Alice step two, that the only additional element beyond the abstract idea claim limitations is a generic computer system to perform the method, the use of which is well-understood, routine and conventional and fails to specify an inventive concept to transform the abstract concept into patent-eligible subject matter. [2]

Representative claim: 1. A method of verification monitoring of a critical test result message management system performed by a computer system comprised of at least one computers comprising:

receiving into the computer system at least one data messages embodying a corresponding at least one critical test result messages, said at least one data messages having an associated at least one timing data;

determining by using the computer system to read from a computer data storage device data that represents the received at least one data messages, at least one test result message metadata corresponding to the received at least one message, said determined metadata describing at least one of a transmission time, a receipt time, a retrieval time, a response time, or an interval between two times, by further using the timing data corresponding to the at least one data messages associated with the at least one critical test result messages;

using the computer system to calculate data representing a usage pattern using the determined at least one test result message metadata; and

using the computer to automatically determine a logical condition using the data representing the usage pattern, said logical condition comprising either the state of compliance or the state of non-compliance of the calculated usage pattern with a pre-defined usage pattern requirement of the critical test result message management system.

Practice tips and takeaways:	The underlying invention described and claimed in this patent is for organizing metadata to speed up "critical test result" reporting for medical diagnoses. The Applicant set up the problem addressed by the invention fairly well in the Specification but failed to specifically describe and claim a solution to this problem that emphasized the improvement to the technology and/or technical field. In particular, the Applicant did not emphasize how the arrangement and timing of transmitted messages within the medical diagnoses system to achieve a verification message management system amounted to a practical application of an otherwise abstract method of "managing personal behavior or relationships or interactions between people" (albeit medical professionals), which the PTAB viewed as a method of organizing human activity.

The US PTO Guidance even provides a close example #42 of a method claim for "Transmission of Notifications When Medical Records Are Updated" that as a whole recites a method of organizing human activity but further recites a combination of additional elements "including storing information, providing remote access over a network, converting updated information that was input by a user in a non-standardized form to a standardized format, automatically generating a message whenever updated information is stored, and transmitting the message to all of the users." According to the US PTO Guidance for Example #42, the example claim as a whole integrates the method of organizing human activity into a practical application because the additional elements recite a specific improvement over prior art systems by allowing remote users to share information in real time in a standardized format regardless of the format in which the information was input by the user. Had the Applicant followed this Example in describing and reciting the claims rejected in this case, the Applicant may have overcome the Examiner's § 101 rejection.

Interestingly, besides rejecting the claims as abstract under 35 U.S.C. § 101, the Examiner had also rejected the independent claims of this patent under 35 U.S.C. §112 first paragraph for lack of written description, 35 U.S.C. §112 second paragraph for indefiniteness, and 35 U.S.C. §103 as obviousness in view of cited prior art references. The PTAB reversed the Examiner's rejections for lack of written description, for indefiniteness, and obviousness, but affirmed the subject matter eligbility rejection under 35 U.S.C. § 101 since the recited claims did not have additional elements that amounted to a practical application or an inventive concept.

It also worth noting that the Federal Circuit did not accept Applicant's argument "that the claims include an inventive concept" simply because the PTAB did not find the claims as obvious in view of the prior art cited by the Examiner. The Federal Circuit ruled that "merely reciting an abstract idea by itself in a claim - even if the idea is novel and non-obvious - is not enough to save it from ineligibility." [3] So Practicioners should be diligent about using the problem/solution approach to describing their claimed invention, emphasing in their Specification how their claimed method uses an uncoventional techique and or arrangement of elements that amounts to a practical application and inventive concept.

Case link:	https://cafc.uscourts.gov/opinions-orders/20-2270.opinion.5-18-2021_1779327.pdf
Art Unit, Examiner:	3685, Steven S. Kim

Citations: [1] In re Gale, 856 Fed.Appx. 887, 888 (Fed. Cir. 2021)
                    [2] *Id* . at 889.

Panelists: Moore, Taranto, and Hughes

In re Gitlin

Overview:	This is a non-precedential opinion finding the claims of US Patent Application No. 12/766,889 unpatentable on appeal from examination. The claims included a mathematical concept, multi-dimensional interpolation. [1]
Discussion:	At step 1, the court found that multi-dimensional interpolation was a mathematical concept by referring to an encyclopedia. At step 2, it is not clear that the claim required a computer, but even if it did, it was merely generic implementation.
Representative claim:	A method for efficiently implementing a multi-dimensional interpolation in any number of dimensions, the method comprising implementing processing said interpolation's third interpolation input as a recursion.
Practice tips and takeaways:	Practitioners need to claim an improvement to a computer or some other technology when claiming a mathematical algorithm.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1461.Opinion.6-13-2019.pdf
Art Unit, Examiner:	2182, Michael D. Yaary
Citations:	[1] In re Gitlin, 775 F. Appx. 689 (Fed. Cir. 2019)
Panelists:	Reyna, Chen, Hughes

In re Villena

Overview:	Non-precedential. Appeal from final decision of the USPTO PTAB. Federal Circuit affirmed PTAB decision that claims Appl. No. 13/294,044 were not eligible under 101. Claims directed to system for distributing real-estate related information. Court found the claims directed to a fundamental economic practice - concept of property valuation. [1]
Discussion:	Under Step 1 of the Alice test, like the risk hedging in Bilski and the concept of intermediated settlement in Alice, the concept of property valuation, that is, determining a property's market value, is "a fundamental economic practice long prevalent in our system of commerce." Id. (quoting Bilski, 561 U.S. at 611). Prospective sellers and buyers have long valued property and doing so is necessary to the functioning of the residential real estate market. As such, claim 57 is directed to the abstract idea of property valuation. Under step 2 of the Alice test, claim 57 does not include an inventive concept sufficient to transform the nature of the claim into a patent-eligible application.
Representative claim:	57. A system for distributing real-estate related information, comprising: one or more computers configured to: receive user-provided information and determine a geographic region based on received user provided information;

produce a plurality of automated valuation method (AVM) values using residential property information, the residential properties being within the geographic region, the AVM values reflecting current market estimates for the residential properties;

provide display information to a remote terminal over a publicly accessible network based on the user-provided information, the display information enabling the remote terminal to generate a map-like display for the geographic region, the map-like display containing at least: respective icons for each of a plurality of residential properties within the geographic region, the 3 icons being spatially distributed relative to one another based on geographic information also residing in one or more computer-readable mediums; and

an AVM value for at least one of the plurality of residential properties within the map-like display, wherein each AVM value is pre-process [sic] such that an AVM value for the at least one residential property pre-exists before a user query of the respective property is performed, and wherein the one or more computers update each of the AVM values without requiring a user query. |
Practice tips and takeaways:	The court found that the elements of claim 57 simply recite an abstract idea executed using computer technology, such as "one or more computers" and a "remote terminal" on a "publicly accessible network. In this case, the court noted that not every 101 determination contains genuine disputes regarding underlying facts material to the 101 inquiry.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/17-2069.Opinion.8-29-2018.pdf
Art Unit, Examiner:	3689, Dennis Ruhl
Citations:	[1] In Re Villena, 745 Fed.Appx. 374 (Fed. Cir. 2018)
Panelists:	Prost, Hughes, Stoll

In re Wang

Overview:	Non-precedential. Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. 13/219,680. Decided: June 20, 2018. Relates to a set of phonetic symbols where each sound is uniquely represented by one or more letters - "e" for bed. The court indicated that what is claimed is not a physical or tangible thing and not a process as things are simply being defined and not acted upon.[1]
Discussion:	Addressing section 101's patentability requirements, we have stated that "[f]or all categories except process claims, the eligible subject matter must exist in some physical or tangible form." Digitech Image Techs., LLC v. Elecs. For Imaging, Inc., 758 F.3d 1344, 1348 (Fed. Cir. 2014). "Because the phonetic symbol system that is the subject of Mr. Wang's claimed invention is not a "concrete thing," a "tangible article," or "a combination of two or more substances," it plainly does not meet the "physical or tangible form" requirement of section 101."
Representative claim:	A phonetic symbol system comprising: a plurality of phonetic symbols, wherein each of said phonetic symbols is defined by one or more than one letter of English alphabet, the case or the style of said letter does not affect the sounds of said phonetic symbols, there are vowel phonetic symbols and consonant phonetic symbols of said phonetic symbols, each vowel is distinctively represented by one of said vowel phonetic symbols, and each consonant is distinctively represented by one of said consonant phonetic symbols.
Practice tips and takeaways:	What is claimed is not a physical or tangible thing and not a process as things are simply being defined and not acted upon. Query whether claiming it as stored on a storage device would make it eligible. Might be rejected as mere printed matter. Elements of a claim that recite data is not given weight unless that data can act upon something. Avoid claiming data related to money. Claim data that result or causes something to happen or be controlled.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/17-1827.Opinion.6-20-2018.pdf
Art Unit, Examiner:	2659, Seong-Ah A Shin
Citations:	[1] In re Wang, 737 Fed. Appx. 534 (Fed Cir. 2018)
Panelists:	Reyna, Schall, Stoll

Interval Licensing LLC v. AOL, Inc.

Overview: Appeal from the United States District Court for the Western District of Washington. This is a precedential opinion from a judgment on the pleadings involving US Pat. No. 6,034,652. The claims were directed to a user interface invention that displays content when the display is inactive (screen saver) and when there is some available screen space when active. [1]

Discussion: An abstract idea was found because the claims were result oriented, without technical detail. The abstract idea was "displaying a second set of data without interfering with a first set of data." At step 2, the claims were found to not recite a technical solution.

Representative   18. A computer readable medium, for use by a
claim: content display system, encoded with one or more
                    computer programs for enabling acquisition of a
                    set of content data and display of an image or images generated from the set of content data on a
                    display device during operation of an attention
                    manager, comprising:
                    [1] acquisition instructions for enabling acquisition of a set of content data from a specified information source;

                    [2] user interface installation instructions for enabling provision of a user interface that allows a person to request the set of content data from the specified information source;

                    [3] content data scheduling instructions for providing temporal constraints on the display of the image or images generated from the set of content data;

                    [4] display instructions for enabling display of the image or images generated from the set of content data;

                    [5] content data update instructions for enabling acquisition of an updated set of content data from an information source that corresponds to a previously acquired set of content data;

                    [6] operating instructions for beginning, managing and terminating the display on the display device of an image generated from a set of content data;

[7] content display system scheduling instructions for scheduling the display of the image or images on the display device;

[8] installation instructions for installing the operating instructions and content display system
scheduling instructions on the content display system; and

[9] audit instructions for monitoring usage of the content display system to selectively display an image or images generated from a set of content
data.

Practice tips and takeaways:	Practitioners should focus on technical solutions, technical improvements or improved functionality for user-interface based inventions.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/16-2502.Opinion.7-20-2018.pdf
Art Unit, Examiner:	2775, Jeffrey Brier
Citations:	[1] Interval Licensing LLC v. AOL, Inc., 896 F.3d 1335 (Fed. Cir. 2018)
Panelists:	Taranto, Plager, and Chen (Plager filed an opinion concurring in part and dissenting in part)

Int. Ventures v. Cap One Financial

Overview: Appeal from the E.D. of Virginia - Decided July 6, 2015. US Patent Nos. 8,083,137, 7,603,382, and 7,260,587 involved collecting, displaying, and manipulating data. [1]

Discussion: There were three sets of claims for different inventions involved in this case. The court pointed out that just because a computer can do something faster does not transform the invention into something eligible. The first patent was very business method related - calculating a budget for spending and sending summaries of spending. The second patent involved tailoring website information based on user preferences or browsing habits. The claim interpretation was very broad, bringing in prior art of selecting advertisements for broadcast television based on time of day. Be careful seeking an overly broad interpretation of your claims. This interpretation was also used to distinguish from DDR, as the problem was not limited to the realm of the Internet. The third patent involved organizing images that were scanned. Nothing pointed out as solving a technical problem in a technical manner.

Representative   First Patent: A method comprising:
claims: storing, in a database, a profile keyed to a user identity and containing one or more user-selected categories to track transactions associated with said user identity, wherein individual user-selected categories include a user pre-set limit; and

                   causing communication, over a communication medium and to a receiving device, of transaction summary data in the database for at least one of the one or more user-selected categories, said transaction summary data containing said at least one user-selected category's user pre-set limit.

                   Second patent: A system for providing web pages accessed from a web site in a manner which presents the web pages tailored to an individual user, comprising: an interactive interface configured to provide dynamic web site navigation data to the user, the interactive interface comprising:
                    a display depicting portions of the web site visited by the user as a function of the web site navigation data; and

                    a display depicting portions of the web site visited by the user as a function of the user's personal characteristics.

                   Third Patent: A method of automatically organizing digital images obtained from a plurality of hard copy prints, each of said hard copy prints having an image thereon, comprising the steps of:
                   digitally scanning a plurality of hard copy prints that have been grouped into one or more categories, each category separated by an associated machine readable instruction form as to obtain a digital file of each of said images and digitally associating said one or more categories with said digital images in accordance with said associated machine readable instruction form executed by a computer;

                   storing said digital images files and associated categories on a digital storage medium; and

                   producing a product incorporating images from one or more of said categories as required by a customer.

Practice tips and takeaways:	See Electric Power tab - Distinguish in a manner similar to that used to distinguish Electric Power above. Alternatively, argue that the claims do not preempt all use of the claimed abstract idea. Assert a technical solution to a technical problem, but be sure to strongly characterize the problem as uniquely arising from technology and not business method related.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/14-1506.Opinion.7-1-2015.1.PDF
Art Unit, Examiner:	2887, Thien Minh Le (USPN 8,083,137); 2167, Cheryl Renea Lewis (USPN 7,603,382, and 7,260,587)
Citation:	[1] Intellectual Ventures I LLC v. Capital One Bank (USA) 792 F.3d 1363, 2015 U.S. App. LEXIS 11537, 115 U.S.P.Q.2d (BNA) 1636 (Fed. Cir. 2015).
Panelists:	Dyk, Reyna, Chen

Int. Ventures v. Erie Indemnity

Overview:	Appeal from the W.D. of Pennsylvania - Decided November 3, 2017 (non-precedential). US Patent No. 7,757,298 involved remotely accessing and retrieving user specified information. [1]
Discussion:	The claims lacked sufficient detail regarding the generation of the identification value from the content of the file. The court generalized many of the decisions of ineligible subject matter to reach the decision.
Representative claim:	1. A computer-implemented method for identifying and characterizing stored electronic files, said method comprising: under control of one or more configured computer systems: selecting a file from a plurality of files stored in a computer storage medium, wherein selecting the file is performed according to at least one of: selecting the file based on the size of the file by determining whether an aggregate size of plural identically-sized files exceeds a predetermined threshold; selecting the file based on whether content of the file matches a file type indicated by a name of the file; or selecting the file based on whether the file comprises data beyond an end of data marker for the file; generating an identification value associated with the selected file, wherein the identification value is representative of at least a portion of the content of the selected file; comparing the generated identification value to one or more identification values associated with one or more of a plurality of unauthorized files; and characterizing the file as an unauthorized file if the identification value matches one of the plurality of identification values associated with the unauthorized files.
Practice tips and takeaways:	See Electric Power tab - consider indicating that this is a non-precedential decision and should not be relied upon to compare the pending claims to an abstract idea deemed ineligible by the courts. In addition, point to Classen if your claims do more with the analysis than merely characterizing a file. It may be helpful to try claiming something the computer is doing that helps the computer do it faster and does not merely replicate what a human would do.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/17-1147.Opinion.11-1-2017.1.pdf
Art Unit, Examiner:	2435, PonnoReay Pich
Citation:	[1] Intellectual Ventures I LLC v. Erie Indem. Co., 711 Fed. Appx. 1012, 2017 U.S. App. LEXIS 22060 (Fed. Cir. 2017).
Panelists:	Wallach, Prost, Reyna

Koninklijke KPN NV v. Gemalto M2M GmbH

Overview:

Appeals from the United States District Court for the District of Delaware - Decided November 15, 2019 - US Patent No. 6,212,662 involved a device for improved error checking in data transmission sections. Claim 1-4 (all claims) found patent ineligible in District Court. Only claims 2-4 were appealed and found eligible.

Discussion:

Alice Step 1: The Fed. Circ. held that claims 2-4 are patent-eligible under Alice Step 1 because "they are directed to a non-abstract improvement in an existing technological process (i.e., error checking in data transmission)." More specifically, the "in time" limitation relative to permutations applied to original data modification recites "a specific implementation of varying the way check data is generated that improves the ability of prior art error detection systems to detect systematic errors." [1] The opinion leans heavily on the specification for identifying the problem and ensuring the solution is in the claims.

Also, Gemalto argued that the claims were ineligible because KPN doesn't recite the final step of using the checked data to detect errors. The Federal Circuit disagreed, describing how "[a] claim that is directed to improving the functionality of one tool (e.g., error checking device) that is part of an existing system (e.g., data transmission error detection system) does not necessarily need to recite how that tool is applied in the overall system (e.g., perform error detection) in order to constitute a technological improvement that is patent-eligible. Rather, to determine whether the claims here are non-abstract, the more relevant inquiry is 'whether the claims in th[is] patent[] focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke processes and machinery.'" [1]

Representative claim:

1. A device for producing error checking based on original data provided in blocks with each block having plural bits in a particular ordered sequence, comprising:
a generating device configured to generate check data; and

 a varying device configured to vary original data prior to supplying said original data to the generating device as varied data;

wherein said varying device includes a permutating device configured to perform a permutation of bit position relative to said particular ordered sequence for at least some of the bits in each of said blocks making up said original data without reordering any blocks of original data.

2. The device according to claim 1, wherein the varying device is further configured to modify the permutation in time.

3. The device according to claim 2, wherein the varying is further configured to modify the permutation based on the original data.

4. The device according to claim 3, wherein the permutating device includes a table in which subsequent permutations are stored.

Practice tips and takeaways:

Drafting the specification and claims as a technical solution in light of a clear technical problem provides a stronger grounds for patent eligibility. If the client wants a broader independent claim, ensure there are dependent claims that clearly delineate the specific solution.

Regarding litigation, carefully consider the claims to assert initially and on appeal.

Case link: http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1863.Opinion.11-15-2019.pdf

Art Unit, Examiner: 213, Shelly A Chase

Citation: [1] Koninklijke KPN NV v Gemalto M2M GmbH, 942 F.3d 1143 (Fed. Cir. 2019)

Panelists: Dyk, Chen, and Stoll

McRO, Inc. v. Brandai Namco Games Am. Inc.

Overview: Appeal from C.D. California - Decided September 13, 2016.

The Federal Circuit in McRO, Inc. v. Bandai Namco Games America reversed the district court's holding that certain software patent claims in U.S. Patent Nos. 6,307,576 and 6,611,278 were directed to ineligible subject matter under 35 U.S.C. § 101. The claims in this case were directed to applying certain rules to automatically generate animated facial expressions based on a sound transcript, or "phoneme sequence." Because the claims were directed to a genus of rules, rather than the general concept of applying rules in the field, the Federal Circuit held there was no preemption of an abstract idea. Thus, the claims were not directed to ineligible subject matter under § 101. [1]

Discussion: As an initial matter, the Federal Circuit held the claim's lack of any tangible elements was not material. Expanding on § 101 jurisprudence, the Federal Circuit noted that the "concern underlying the exceptions to § 101 is not tangibility, but preemption." The Federal Circuit reiterated its caution that district courts "must be careful to avoid oversimplifying the claims by looking at them generally and failing to account for the specific requirements of the claims."

Taking a close look at the claim language, the Federal Circuit held that the claimed "first set of rules" were not unlimited or unbounded—rather, they must evaluate sub-sequences consisting of multiple sequential phonemes. The claimed rules thus did not preempt the field, but rather were directed to a set of "rules with common characteristics, i.e., a genus." While genus claims may implicate enablement and written description issues under 35 U.S.C. § 112, the Federal Circuit explained, their breadth generally does not implicate § 101 subject matter eligibility issues.

Thus, the "specific structure of the claimed rules would prevent broad preemption of all rules-based means of automating lip-synchronization, unless the limits of the rules themselves are broad enough to cover all possible approaches." Here, the "limitations in claim 1 prevent preemption of all processes for achieving automated lip-synchronization of 3-D characters." Following the earlier *Enfish* decision, the Federal Circuit thus held the representative claim was not directed to an abstract idea, and thus did not meet *Alice* step one, thereby ending the inquiry.

Representative claim: 1. A method for automatically animating lip synchronization and facial expression of three-dimensional characters comprising:
obtaining a first set of rules that define output morph weight set stream as a function of phoneme sequence and time of said phoneme sequence;

obtaining a timed data file of phonemes having a plurality of sub-sequences;

generating an intermediate stream of output morph weight sets and a plurality of transition parameters between two adjacent morph weight sets by evaluating said plurality of sub-sequences against said first set of rules;

generating a final stream of output morph weight sets at a desired frame rate from said intermediate stream of output morph weight sets and said plurality of transition parameters; and

applying said final stream of output morph weight sets to a sequence of animated characters to produce lip synchronization and facial expression control of said animated characters.

Practice tips and takeaways:	The Federal Circuit's decision provides another data point for software patents generally. Key to the Federal Circuit's holding was that there are other alternatives to the claimed method (e.g., rules that only evaluated individual phonemes). Thus, although the representative claim was not directed to tangible material, it claimed patent-eligible subject matter because it did not preempt the underlying broader abstract concept.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/s15-1080.Opinion.9-9-2016.2.pdf
Art Unit, Examiner:	2672, Ryan Yang
Citations:	[1] McRO, Inc. v. Bandai Namco Games Am. Inc., 837 F.3d 1299 (Fed. Cir. 2016).
Panelists:	Reyna, Taranto, Stoll

Mentone Solutions LLC v. Digi International Inc.

Overview: Appeal from DC of Delaware - Decided November 15, 2021.

The Federal Circuit in Menton v Digi reversed the district court's holding that claims in U.S. Patent No. 6,952,413 were directed to ineligible subject matter under 35 U.S.C. § 101. The claims in this case were directed to permitting multislot configurations for certain classes of mobil stations using an uplink status flag (USF) to help a mobile station to access previously restricted slots due to insufficient time to switch between receiving and trnasmitting. The improvement in computer functionality broke a fixed relationship in timing, permitting sufficient time to begin transmitting. Thus, the claims were not directed to ineligible subject matter under § 101. [1]

Discussion: The Federal Circuit held that claim 5 was not an abstract idea because it "improves communication capabilities in certain mobile stations using extendded bandwideth allocation. Like the claims we held patent eligible in DDR Holdings, LLC v. Hotels.com L. P. , claim 5 improves the normal operation of the ocmmunication itself to overcom a sproblem specificatlly arising in the relam of computer networks."[2] The Federal Circuit focused its comment on the specific problem solved by the specification and found that: "The specification shows how using the shifted USF, as in Figure 4, allows a mobile sta-tion to utilize the otherwise impermissible configuration of Figure 3 because the mobile station has sufficient turnaround tie to switch from a receive condition to a transmit condition. See '413 patent at 4:1–19. And this newly allowed multislot configuration provides an additional uplink slot compared to the configuration of Figure 2. Id. at 3:61–67. The claimed invention, therefore, improves communication ca-pabilities in certain mobile stations using extended band-width allocation. Like the claims we held patent eligible in DDR Holdings, LLC v. Hotels.com, L.P., claim 5 improves the normal operation of the communication system itself to "overcome a problem specifically arising in the realm of computer networks." 773 F.3d 1245, 1257 (Fed. Cir. 2014)."

Taking a close look at the claim language, the Federal Circuit indicated that the claim does not need to specifically state how the claim language would improve the functioning of a prior art system. Instead indicating: "The claim does not merely recite generalized steps to be performed on a computer. Nor does it recite data manipulation on a generic computer as Ap-pellees argue. Appellees' Br. 12. Claim 5 recites a particular method of breaking the fixed relationship between the timing of a downlink USF and subsequent uplink transmission: the mobile station receives an assignment of two distinct PDCHs, and, if the shifted USF operation is used, it monitors the second PDCH for USFs corresponding to the first and second PDCH and trnasmits those on PDCHs accordingly." The Fderal Circuit then references that the specification provides the important details.

Despite the claim language containing language simlar to the "result-based functional langauge" (converting information into streams of packets; routing the streams to users; controlling the routing; and monitoring the recption of packts by the users) found in Two-Way Media Ltd. v. Comcast cable communications, LLC, 874 F. 3d 1329 (Fed Cir. 2017), the Fderal Circuit found the claims eligible. The Federal Circuit indicated the "claims here are like those in Packet Intelligence LLC v. NetScout Sys., Inc. 965 F. 3d 1299 (Fed.Cir. 2020). In that case, the claim presented a solution to a "challenge unique to computer networks, identifying disjointed connection flows in a network environment,"" and provided detail on how the solution was "achieved in several steps." Id. at 1309." The distinction between the first and second cases appears to rely heavily on the detailed expresson of the technical problem.

In an interesting discussion, the opinion appears to use the fact that a new term was coined to help direct the analysis of the technical problem/solution paradigm back to the specification for description of the meaning of the new term: "The specification also provides important details on the technological problem and how the claimed invention solves that problem. The specification is of particular importance here, as "shifted USF" appears to be a coined term by the inventor. See Intervet Inc. v. Merial Ltd., 617 F.3d 1282, 1287 (Fed. Cir. 2010) ("[T]erms coined by the inventor are best understood by reference to the specification." (citing Phillips v. AWH Corp., 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc)). Figure 2 provides a prior art "steady state single downlink and 4 uplink slot allocation" in which there is a fixed relationship between a downlink in which the USF is received and transmission availability on the corresponding uplink slot. Id. at Fig. 2; 1:50–2:5; 3:61–67. Figure 3 shows how the prior art's use of a USF does not permit a 5 uplink slot allocation due to constraints in switching a mobile station from a transmitting configura tion to a receiving configuration. Id. at 3:1–4. Accordingly, as the patent explains, there was a need to reduce restrictions with minimal effect on the existing system to en able desirable multislot configurations. Id. at 2:32–4"

Representative claim:	5. A multiple access communication method in a mobile station, comprising the steps of:
	receiving an assignment of at least a first PDCH (packet data channel) and a second PDCH;
	monitoring an assigned PDCH to detect a USF; and
	transmitting on an assigned PDCH corre sponding to the USF, wherein (i) if shifted USF operation is not used then a first assigned PDCH is moni tored to detect a USF corresponding to the first assigned PDCH and (ii) if the shifted USF operation is used then a a second as signed PDCH is monitored to detect the USF corresponding to the first assigned PDCH and a USF corresponding to the second assigned PDCH.

Practice tips and takeaways:	Include as detailed a recitation of the technical problem as possible in the specification. This will help immensly, even if the claims only contain functional langauge at a high level of generality.
	Also invent a new term and use it in the claims. This may result in the specification being resorted to and used as an indication that it really was a new technical problem that was solved even if the solution is not directly apparent from the claim langauge itself. This "trick" could also be used to help limit an overly broad interpreation of a term by an examiner during prosecution.
Case link:	https://cafc.uscourts.gov/opinions-orders/21-1202.OPINION.11-15-2021_1864358.pdf
Art Unit, Examiner:	370, Rickey Ngo
Citations:	[1] Mentone Solutions LLC v. Digi International Inc., 2021 U.S.P.Q. 2d 1120 (Fed. Cir. 2021). [2] DDR Holdings, LLC v. Hotels.com, L.P.k 773 F.3D 1245, 1257 (Fed. Cir. 2014).
Panelists:	Moore, Lourie, Dyk

Mortgage Application Technologies, LLC, v Meridianlink, Inc.

Overview:	Appeal from C.D. California - Decided January 12, 2021. (nonprecedential)
	The Federal Circuit in Mortgage Application Technologies v Meridianlink affirmed the district court's holding that the claims in U.S. Patent No. 8,548,902 were directed to ineligible subject matter under 35 U.S.C. § 101. The claims in this case were directed to an approach for automatically creating and processing loan applications. The Federal Circuit found the claims were directed to the abstract idea of information exchange which can be performed by a human and there was nothing else in the claims to transform that abstract idea into a patent eligible concept. [1]
Discussion:	The Federal Circuit reasoned the mere automation of an exchange/storage of information does not render the claims less abstract. Adding computer technology to speed up a process that could be done by a human is not an inventive concept. The potential inventive solutions described by the patentee in their arguments were not found in the claims.
Representative claim:	1. A system for providing an online loan origination service, comprising:
	an application server having an Internet interface and configured to receive a loan application having loan application data, wherein the loan application data is in an Extensible Markup Language (XML) format, configured to automatically extract the loan application data, and hosting an automatic decision engine, wherein the automatic decision engine is configured to automatically process the loan application data and compare the loan application data to lender underwriting criteria to determine one or more compatible lenders;
	a database server coupled to the application server, comprising a database pre-loaded with a PDF generated application form, and configured to receive the extracted loan application data, further configured to automatically populate a binary Portable Document Format (PDF) form file with the extracted loan application data, and further configured to automatically store the binary PDF form file loan application populated with the extracted XML loan application data for cross-platform access and viewing; and
	a queue manager server coupled to the application server and the database server, wherein the queue manager server is configured to receive the loan application from the application server and wherein the database server is further configured to poll the queue manager server at specified periodic intervals and to receive the transfer of the loan application data from the queue manager server in response to a poll.
Practice tips and takeaways:	Any arguments towards inventive concepts must actually be limitations in the claims and not just described in the specification.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/20-1504.OPINION.1-12-2021_1716025.pdf
Art Unit, Examiner:	3693, Arunava Chakravarti
Citations:	[1] Mortgage Application Tech. v. Meridianlink, Inc., No. 20-1504 (Fed. Cir. 2021)
Panelists:	Prost, Clevenger, and Dyk

Mymail, LTD. v. ooVoo, LLC

Overview:

This is a nonprecedential CAFC Court decision from a pair of identical decisions of the United States District Court for the Northern District of California granting ooVoo, LLC's and IAC Search & Media, Inc.'s renewed motions for judgment on the pleadings. In a prior appeal, the CAFC vacated the district court's judgments on the pleadings and remanded because the district court failed to address the parties' claim construction dispute before considering the eligibility of MyMail's patent claims under 35 U.S.C. § 101. [1] On remand, the district court construed the disputed term, "toolbar." Under this construction, the court again held that the claims of MyMail's patents are ineligible.

The CAFC affirmed both lower court decisions holding patents U.S. Patent Nos. 8,275,863 ("the '863 patent") and 9,021,070 ("the '070 patent") ineligible under 35 U.S.C. § 101. Both patents have virtually identical written descriptions and describe the field of invention as relating generally to digital data networks and more particularly to "network access and to minimizing unauthorized interception of data and denial of network services."

Decided: August 19, 2021

Discussion:

In step 1, the CAFC found that the representative claims "are directed to updating toolbar software over a network without user intervention" and that "[t]his amounts to no more than invoking computers as a tool to perform the abstract ideas of collecting information, analyzing information, and presenting the results of the analysis in the software update context."

MyMail argued that its claims are directed to an improvement in the functionality of the software updating process. According to MyMail, its new and specific method of updating software improves the functionality of updating software "by allowing the toolbar to be updated via the [P]inger process or MOT script method." However, the CAFC panel was unconvinced that the capability of being updated by a Pinger process or a MOT script was suffcient to rescue the representative claims from abstraction. For example, according to the written descriptions, the MOT script refers to the unspecified script language used by the Pinger process, and the Pinger process is the process by which a client dispatch application and an access service communicate by:

- (1) the client dispatch application transmits information, including revision level, to the access service;
- (2) the access service determines whether the client dispatch application needs a database update; and
- (3) the client dispatch application downloads any database updates.

Specifically, the panel found that the written descriptions provide no support for MyMails purported improvement in computer funcationality. Moreover updating via the Pinger process proceeds exactly as the claimed method of updating, which is abstract. Hence, the MOT script and the Pinger process did not change the claims' focus on the abstract idea of updating toolbar sofware over a network without user intervention.

In step 2, the CAFC found no inventive concept sufficient to transform the nature of the claims into a patent-eligible application. The individual claim elements are either generic computer components (e.g., a user Internet device, a server, etc.) or routine activity (e.g., displaying a toolbar comprising one or more buttons). Even when viewing the claim elements as an ordered combination, the court could discern no inventive concept in the process of sending information from a user device to a server, determining at the server whether the user device should receive toolbar update data, receiving at the user device the update data, updating the toolbar, and displaying the toolbar.

As a result, the CAFC held "that claim 1 of the '863 patent and claim 1 of the '070 patent are directed to the ineligible concept of updating toolbar software over a network without user intervention."

Representative claim:	1. A method of modifying a toolbar, comprising the steps of: a user Internet device displaying a toolbar comprising one or more buttons, the toolbar defined by toolbar data stored in one or more toolbar-defining databases, the toolbar data comprising a plurality of attributes, each attribute associated with a button of the toolbar, wherein for each button of the toolbar, at least one of the plurality of attributes identifying a function to be performed when the button is actuated by the user Internet device; the user Internet device automatically sending a revision level of the one or more toolbar-defining databases to a predetermined network address; a server at the predetermined network address determining, from the revision level, the user Internet device should receive the toolbar update data; the user Internet device receiving toolbar update data from the Internet; the user Internet device initiating without user interaction an operation to update the toolbar data in accordance with the toolbar update data received; the user Internet device updating, by the operation, the toolbar data in accordance with the toolbar update data, thereby producing updated toolbar data, the updating comprising at least one of the following steps (a) and (b), each respectively comprising: (a) writing at least one new attribute to the original toolbar data, wherein the writing at least one new attribute to the toolbar data comprises changing the one or more buttons of the toolbar by adding a button; and (b) updating at least one attribute of the toolbar data; and the user Internet device displaying the toolbar as defined by the updated toolbar data.
Practice tips and takeaways:	In cases involving software innovations, passing step one often turns on whether the claims focus on specific asserted improvements in computer capabilities or instead on a process or system that qualifies as an abstract idea for which computers are invoked merely as a tool. Drafters should explain how specific features improve the computing funcatility. Simply asserting that claims improve computer funcationality via conclusory statements will fail to provide the level of detail required by the case law to establish an improvment in computer functionality.
Case link:	https://cafc.uscourts.gov/opinions-orders/20-1825.opinion.8-19-2021_1821995.pdf
Art Unit, Examiner:	2612, TOPPIN, CATHERINE J
Citations:	[1] MYMAIL, LTD. v. OOVOO, LLC, No. 2020-1825, 2021 (Fed. Cir. 2021)
Panelists:	Moore, O'Mlley, and Reyna

Packet Intelligence LLC v Netscout Systems Inc

Overview:	Precedential. Appeal from the United States District Court for the Eastern District of Texas - Decided July 14, 2020 - US Patent Nos. 6,665,725 claims 10 and 17, 6,839,751 claims 1 and 4, and 6,954,789 claims 19 and 20 were at issue. For the 101 analysis, claim 19 of US Patent No. 6,954,789 was agreed to as representative by both parties. Said claim was found eligible at the District Court level at Alice Step 1 but also included an Alice Step analysis, which was affirmed by the Federal Circuit in a 2-1 decision. The dissent focused on the 101 analysis.

Discussion:

In Alice Step 1, the District Court found that the claim was directed to "solving a discrete technical problem: relating disjointed connection flows to each other." Accordingly, the claim was directed to a specific technological solution. The Federal Circuit agreed stating "... the claims were not using a computer as a tool but, instead, recited a specific technique for improving computer network security" and that "... asserted patents' specifications make clear that the claimed invention presented a technological solution to a technological problem." [1]

Judge Reyna dissented stating that "the technological problem at issue was that prior art monitors could not recognize packets from multiple connections as belonging to the same conversational flow, then the 'solution' of classifying network traffic according to conversational flows rather than connection flows is conceptual, not technological, in the absence of specific means by which that classification is achieved." Further, Judge Reyna states that *the claim does not recite* the crucial element of how individual packets are actually identified, but that the specification does provide such detail. Therefore, alone the components and operations claimed do not transform it from claiming a result to claiming how to achieve said result. Judge Reyna believes the District Court erred in the relevant inquiry which should be whether the concrete means of how to achieve said result is claimed. Rather, the District Court relied on the patent as a whole and heavily on the specification to teach how to identify that certain packet belong to the same conversational flow. Not passing Alice Step 1, the dissent then included Alice Step 2 analysis. Judge Reyna states that the District Court's Alice Step 2 analysis used the abstract idea to serve as the inventive concept, which is improper. Accordingly, Judge Reyna would have remanded the case for a proper analysis of Alice Step 2. [1]

Representative

US 6,954,789 Claim 19. A packet monitor for examining packets passing through a connection point on a computer network, each packets conforming to one or more protocols, the monitor comprising:

  (a) a packet acquisition device coupled to the connection point and configured to receive packets passing through the connection point;

  (b) an input buffer memory coupled to and configured to accept a packet from the packet acquisition device;

  (c) a parser subsystem coupled to the input buffer memory and including a slicer, the parsing subsystem configured to extract selected portions of the accepted packet and to output a parser record containing the selected portions;

  (d) a memory for storing a database comprising none or more flow-entries for previously encountered conversational flows, each flow-entry identified by identifying information stored in the flow-entry;

  (e) a lookup engine coupled to the output of the parser subsystem and to the flow-entry memory and configured to lookup whether the particular packet whose parser record is

output by the parser subsystem has a matching flow-entry, the looking up using at least some of the selected packet portions and determining if the packet is of an existing flow; and

   (f) a flow insertion engine coupled to the flow-entry memory and to the lookup engine and configured to create a flow-entry in the flow-entry database, the flow-entry including identifying information for future packets to be identified with the new flow-entry, the lookup engine configured such that if the packet is of an existing flow, the monitor classifies the packet as belonging to the found existing flow; and if the packet is of a new flow, the flow insertion engine stores a new flow-entry for the new flow in the flow-entry database, including identifying information for future packets to be identified with the new flow-entry, wherein the operation of the parser subsystem depends on one or more of the protocols to which the packet conforms.

Practice tips and takeaways:	Presenting a "technological solution to a technological problem" in the specification is quite valuable. As seen in this and many other cases, the specification is being more heavily relied on for determining patent eligibility under 101. However, as illustrated in the dissent, be sure that the specific aspects of how to achieve the technical solution are claimed.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/19-2041.OPINION.7-14-2020_1618468.pdf
Art Unit, Examiner:	6,665,725 - Khanh Q Dihn, 2668 6,839,751 - Thong H Vu, 2142 6,954,789 - Moustafa M Meky, 2157
Citations:	[1] Packet Intelligence LLC v. NetScout Sys., Inc., 965 F.3d 1299, 1309–10 (Fed. Cir. 2020)
Panelists:	Lourie, Reyna, Hughes

PersonalWeb Technologies LLC

Overview: Precedential. Appeal from the United States District Court for the Northern District of California - Decided August 12, 2021 - US Patent Nos. 7,802,310, 6,415,280, and 7,949,662 were at issue. Claim 24 of US Patent No. 7,802,310 was used for the 101 analysis.

Discussion: In Step 1, the District Court "concluded that the patents are directed to a three-step process: '(1) using a content-based identifier generated from a 'hash or message digest function,' (2) comparing that content-based identifier against something else, [that is,] another content-based identifier or a request for data; and (3) providing access to, denying access to, or deleting data." The Federal Circuit agreed stating "... the claims are directed to the use of an algorithm-generated contentbased identifier to perform the claimed data-management functions, which across the three patents include controlling access to data items (the '310 patent), retrieving and delivering copies of data items (the '280 patent), and marking copies of data items for deletion (the '662 patent)," which were concluded to be mental processes and "focus on 'mere automation of manual processes using generic computers.'" [1] The Opinion goes on to discuss each step of the three-step process in detail. Further, the technology problems ("access to, retrieval of, and redudeancy control of information") and claimed solutions ("names based content") asserted by PersonalWeb were considered by the Federal Circuit to "have long predated computers" and that the "asserted efficiency improvements are not different in kind from those that would accrue in the library analogue—for example, using contentbased identifiers to purge duplicate books." [1]

In Step 2, PersonalWeb argued that the claims recite an inventive use of cryptographich hashes, but the Federal Circuit stated that this is not "'more', let alone anything 'significantly more,' than the abstract idea itself." Further, the improvements PersonalWeb sets forth simply restate the abstract ideas discussed in Step 1. [1]

Representative claim: US Pat. No. 7,802,310
Claim 24. A computer-implemented method implemented at least in part by hardware comprising one or more processors, the method comprising:
  (a) using a processor, receiving at a first computer from a second computer, a request regarding a particular data item, said request including at least a content-dependent name for the particular data item, the content-dependent name being based, at least in part, on at least a function of the data in the particular data item, wherein the data used by the function to determine the content-dependent name comprises at least some of the contents of the particular data item, wherein the function that was used comprises a message digest function or a hash function, and wherein two identical data items will have the same content-dependent name; and

   (b) in response to said request:

     (i) causing the content-dependent name of the particular data item to be compared to a plurality of values;

     (ii) hardware in combination with software determining whether or not access to the particular data item is unauthorized based on whether the content-dependent name of

the particular data item corresponds to at least one of said plurality of values, and

   (iii) based on said determining in step (ii), not allowing the particular data item to be provided to or accessed by the second computer if it is determined that access to the particular data item is not authorized.

Practice tips and takeaways:	Presenting a "technological solution to a technological problem" in the specification is quite valuable. As seen in this and many other cases, the specification is being more heavily relied on for determining patent eligibility under 101. However, the technical problem and the technical solution cannot be the abstract ideas.
Case link:	https://cafc.uscourts.gov/opinions-orders/20-1543.opinion.8-12-2021_1818061.pdf
Art Unit, Examiner:	7,802,310 - 2432, Samson B Lemma 6,415,280 - 2177, Jean Raymond Homere 7,949,662 - 2166, Khanh B Pham
Citations:	[1] PersonalWeb Technologies LLC v. Google LLC, Case No. 20-1543 (Fed. Cir. 2021)
Panelists:	Lourie, Prost, Reyna

SIPCO LLC v Emerson Electric Co

Overview:

Appeal from the United States Patent and Trademark Office, decided September 25, 2019. Eligible - Appeal from the PTAB, which had determined the claims to be ineligible. The Federal Circuit reversed the PTAB's claim construction determination and its finding that SIPCO's patent (U.S. Patent No. 8,908,842) did not meet the second prong of the "technological invention" definition in § 42.301(b), and remanded for further proceedings.

Discussion:

The Federal Circuit examined the PTAB's claim construction, which was used by the PTAB to determine the claims to be ineligible. The Federal Circuit determined that the specification correlated "low-power" with a limited transmission range based on language in the specification that explained that a low-power transmitter was used to overcome problems associated with broader range transmission. The Court found that this intrinsic evidence was sufficient to construe "low-power" in the claims without considering extrinsic evidence, as the PTAB had done. Based on its construction, the Federal Circuit held that the claimed invention solved a technical problem (signal interference) with a technical solution (low-power, limited transmission range). The Federal Circuit remanded for the Board to consider the first prong of § 42.301(b)— "whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art." The Court found that SIPCO's patent was directed to a technical invention because "the claimed invention implements a communication system that connects an unconnected, remote device with a central station."

Representative claim:

1. A device for communicating information, the device comprising:
a low-power transceiver configured to wirelessly transmit a signal comprising instruction data for delivery to a network of addressable devices;

an interface circuit for communicating with a central location; and

a controller coupled to the interface circuit and to the low-power transceiver, the controller configured to establish a communication link between at least one device in the network of addressable devices and the central location using an address included in the signal, the communication link comprising one or more devices in the network of addressable, the controller further configured to receive one or more signals via the low-power transceiver and communicate information contained within the signals to the central location.

Practice tips and takeaways:

The description in the specification was crucial in determining whether the claim was a technical solution to a technical problem. The Court noted there may also be a disconnect between "unobvious" in the CBM statue and "obviousness" under 35 USC 103.

Case link: http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1635.Opinion.9-25-2019.pdf

Art Unit, Examiner: 2653, Binh Kien Tieu

Citation: SIPCO LLC v Emerson Electric Co, 939 F.3d 1301 (Fed. Cir. 2019)

Panelists: O'Malley, Reyna, Chen

Solutran, Inc. v Elavon, Inc.

Overview:	Appeal from District of Minnesota - Decided July 30, 2019. Precedential Opinion US Patent No. 8,311,945 The Federal Circuit reversed the district court opinion, finding the claims to be not patent eligible. Claims directed to: system and method for processing paper checks in which in which (1) "data from the checks is captured at the point of purchase," (2) "this data is used to promptly process a deposit to the merchant's account," (3) the paper checks are moved elsewhere "for scanning and image capture," and (4) "the image of the check is matched up to the data file."
Discussion:	The claims are directed to the abstract idea of crediting a merchant's account as early as possible while electronically processing a check. The claims are written at a distinctly high level of generality rather than an improvement in the way computers operate or an improvement in the technical capture of information. The physicality of the paper checks being processed and transported is not by itself enough to exempt the claims from being directed to an abstract idea. The claims "simply instruct the practitioner to implement the abstract idea with routine, conventional activity."
Representative	1. A method for processing paper checks, comprising: a) electronically receiving a data file containing data captured at a merchant's point of purchase, said data including an amount of a transaction associated with MICR information for each paper check, and said data file not including images of said checks; b) after step a), crediting an account for the merchant; c) after step b), receiving said paper checks and scanning said checks with a digital image scanner thereby creating digital images of said checks and, for each said check, associating said digital image with said check's MICR information; and d) comparing by a computer said digital images, with said data in the data file to find matches.
Practice tips and takeaways:	Just because there is a "physical" aspect to an invention does not mean it will automatically be held eligible.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1635.Opinion.9-25-2019.pdf-
Art Unit, Examiner:	3694, Mohammad Z Shaikh
Citations:	Solutran, Inc. v. Elavon, Inc., 931 F.3d 1161 (Fed. Cir. 2019)
Panelists:	CHEN, HUGHES, and STOLL

SRI International, Inc. v. Cisco Systems, Inc.

Overview:	Precedential - Eligible Appeal from a final judgement of the United States District Court for the District of Delaware. U.S. Patent Nos. 6,484,203 and 6,711,615. The court describes the technical research regarding cyber-security to detect hackers trying to break into a computer system and indicates that at step one, "necessarily rooted in computer technology in order to solve a specific problem in the realm of computer networks. " Decided: March 20, 2019.
Discussion:	Eligible - "The claims are directed to using a specific technique—using a plurality of network monitors that each analyze specific types of data on the network and integrating reports from the monitors—to solve a technological problem arising in computer networks: identifying hackers or potential intruders into the network." Laurie dissents, indicating the claims are the similar to those in Electric Power. The majority distinction is a little strange, seemingly indicating that improving the functioning of a computer is different than improving the functioning of a power grid? In any event, the technical problem/technical solution aspect was highlighted in the decision.
Representative claim:	1. A computer-automated method of hierarchical event monitoring and analysis within an enterprise network comprising: deploying a plurality of network monitors in the enterprise network; detecting, by the network monitors, suspicious network activity based on analysis of network traffic data selected from one or more of the following categories: {network packet data transfer commands, network packet data transfer errors, network packet data volume, network connection requests, network connection denials, error codes included in a network packet, network connection acknowledgements, and network packets indicative of well known network-service protocols}; generating, by the monitors, reports of said suspicious activity; and automatically receiving and integrating the reports of suspicious activity, by one or more hierarchical monitors.
Practice tips and takeaways:	Practice tip - include description of technical problem/solution, focusing on making sure the problem is portrayed as a technical problem. "The specification bolsters our conclusion that the claims are directed to a technological solution to a technological problem. The specification explains that, while computer networks "offer users ease and efficiency in exchanging information," '615 patent col. 1 ll. 28–29, "the very interoperability and sophisticated integration of technology that make networks such valuable assets also make them vulnerable to attack, and make dependence on networks a potential liability." Id. at col. 1 ll. 36–39. " Note also that there was a dissent in this case that indicated it was no different than Electric Power. Because of the technical emphasis in the application, the claims were able to slide by with arguably functional limitations. The recitation of the multiple categories may have been what saved this claim.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/17-2223.Opinion.3-20-2019.pdf

Art Unit, Examiner: US 6,484,203 - 2185, Thomas Heckler
                       US 6,711,615 - 2115, Thomas Heckler

Citations: SRI International, Inc. v. Cisco Systems, Inc., 918 F.3d 1368 (Fed. Cir. 2019)

Panelists: LOURIE, O'MALLEY, and STOLL

TecSec v. Adobe

Overview:	This is a precedential decision from a district court's summary judgment ruling that U.S. Patent No. 5,369,702 was patent eligible. The technology is methods for multi-level security of various kinds of files transmitted in a data network. [1] Decided: October 23, 2020
Discussion:	The Federal Circuit found the claims were not directed to an abstract idea because they contained technical limitations, such as "object-oriented key manager" and specified uses of a "label" in addition to encryption. The court reviewed the specification and found that the claims are "directed to solving a problem specific to computer data networks." And the court concluded "[i]n light of what the claim language and specification establish, we conclude that the claims are directed to improving a basic function of a computer data-distribution network, namely, network security."
Representative claim:	1. A method for providing multi-level multimedia security in a data network, comprising the steps of: A) accessing an object-oriented key manager; B) selecting an object to encrypt; C) selecting a label for the object; D) selecting an encryption algorithm; E) encrypting the object according to the encryption algorithm; F) labelling the encrypted object; G) reading the object label; H) determining access authorization based on the object label; and I) decrypting the object if access authorization is granted.
Practice tips and takeaways:	Practitioners should focus on ensuring that the specification describes a technical distinction over the prior art that is reflected in the claims.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/19-2192.OPINION.10-23-2020_1674360.pdf
Art Unit, Examiner:	2202, Bernarr E. Gregory
Citations:	[1] TecSec, Inc. v. Adobe Inc., No. 2019-2192, 2020 WL 6228460 (Fed. Cir. 2020)
Panelists:	Taranto (author), Prost, Reyna

Trading Techs. Int'l, Inc. v. CQG, Inc

Overview:

Appeal from N.D. Illinois - Decided January 18, 2017

CQG appeals the district court's decision under 35 USC 101 that the asserted claims of US Patent Nos. 6,772,132 and 6,766,304 recite patent eligible subject matter. The appeal was limited to only the eligibility question under Section 101, and the Federal Circuit affirmed the district court's decision. This decision is a non-precedential decision.

Federal Circuit Holding: The court affirmed the finding of subject matter eligibility under 35 USC 101.

Technology: Methods and systems "for displaying market information relating to and facilitating trading of a commodity being traded in an electronic exchange…on a graphical user interface" including displaying market depth information and submitting a trade based on a user selection of a portion of the user interface.

Discussion:

The Federal Circuit took claim 1 of the 304 patent as representative and analyzed the claim under the two-step Alice test. Going no farther than the first step, the Federal Circuit agreed with the district court's analysis that the patent claims are directed to solving problems found in prior graphical user interface devices used for computerized training. For example, the Federal Circuit stated that "the patents describe a trading system in which a graphical user interface 'display[s] the market depth of a commodity traded in a market'" and the graphical user interface solves "'problems of prior graphical user interface devices…relating to speed, accuracy and usability.'" [1] The court found that these patents are directed to improvements in existing graphical user interface devices that have no "pre-electronic trading analog," and recite more than "'setting, displaying, and selecting' data or information that is visible on the [graphical user interface] device." [2] The court indicated that, "[f]or Section 101 purposes, the claimed subject matter is 'directed to a specific improvement to the way computers operate' because the claimed graphical user interface method imparts a specific functionality to a trading system 'directed to a specific implementation of a solution to a problem in the software arts.'" [3] The Federal Circuit liked the district court's analysis including their finding that "the challenged patents do not simply claim displaying information on a graphical user interface" but rather "require a specific, structured graphical user interface paired with a prescribed functionality directly related to the graphical user interface's structure that is addressed to and resolves a specifically identified problem in the prior state of the art." [4] With respect to step two of the Alice test, the Federal Circuit agreed with the district court, finding that the static price index was an inventive concept improving trade placement using an electronic trading system. Further, the electronic trading system is distinct from a conventional computer because the trading system provides "specific technologic modifications to solve a problem or improve the functioning of a known system." [5] Thus, the Federal Circuit found that the claims did not recite an abstract idea and, furthermore, recited something significantly more.

Representative claim:

1. A method for displaying market information relating to and facilitating trading of a commodity being traded in an electronic exchange having an inside market with a highest bid price and a lowest ask price on a graphical user interface, the method comprising: dynamically displaying a first indicator in one of a plurality of locations in a bid display region, each location in the bid display region corresponding to a price level along a common static price axis, the first indicator representing quantity associated with at least one order to buy the commodity at the highest bid price currently available in the market;

dynamically displaying a second indicator in one of a plurality of locations in an ask display region, each location in the ask display region corresponding to a price level along the common static price axis, the second indicator representing quantity associated with at least one order to sell the commodity at the lowest ask price currently available in the market;

displaying the bid and ask display regions in relation to fixed price levels positioned along the common static price axis such that when the inside market changes, the price levels along the common static price axis do not move and at least one of the first and second indicators moves in the bid or ask display regions relative to the common static price axis;

displaying an order entry region comprising a plurality of locations for receiving commands to send trade orders, each location corresponding to a price level along the common static price axis; and

 in response to a selection of a particular location of the order entry region by a single action of a user input device, setting a plurality of parameters for a trade order relating to the commodity and sending the trade order to the electronic exchange.

Practice tips and takeaways:	The Federal Circuit seemed to largely base its decision on the fact that the claimed graphical user interface addresses specific problems found in prior graphical user interfaces in this area (electronic trading). It is important to cast a problem in the prior art in terms of the technology and then make sure your claims recite an improvement to the technology that solves the problem. Judge Newman's opinion indicates that "[a]bstraction is avoided or overcome when a proposed new application or computer-implemented function is not simply the generalized use of a computer as a tool to conduct a known or obvious process, but instead is an improvement to the capability of the system as a whole." The Federal Circuit panel found that close questions of subject matter eligibility should be "considered along with the understanding flowing from review of the patentability criteria of novelty, unobviousness, and enablement" because these statutory criteria provide context for the analysis of eligibility in light of the "patent-based incentive to technological progress."
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/16-1616.Opinion.1-13-2017.1.PDF
Art Unit, Examiner:	3624, Richard Weisberger
Citations:	[1] Trading Techs. Int'l, Inc. v. CQG, Inc., 675 F. App'x 1001, 1004 (Fed. Cir. 2017). [2] *Id* . [3] *Id* . at 1006. [4] *Id* . [5] *Id* .
Panelists:	Newman, O'Malley, Wallach

Trading Techs. Int'l, Inc. v. IBG LLC

Overview:	This is a precedential decision from a CBM finding the claims of U.S. Patent No. 7,783,556 invalid. The technology was displaying various market information to stock traders. [1]

Discussion: At step 1, the only difference over the prior art was additional information being displayed. The court relied on Elec. Pwr. Group to find an abstract idea. At step 2, even if no other system had displayed this additional information, this is simply relying on the abstract idea which cannot be done to show an inventive concept.

Representative claim:

1. A method for displaying market information on a graphical user interface, the method comprising:
receiving by a computing device a current highest bid price and a current lowest ask price for a tradeable object from an electronic exchange;

identifying by the computing device a long or short position taken by a user with respect to the tradeable object, wherein the long position is associated with a quantity of the tradeable object that has been bought by the user at a price, and wherein the short position is associated with a
quantity of the tradeable object that has been sold by the user at a price;

computing by the computing device a plurality of values based on the long or short position, wherein each of the plurality of values represents a profit or loss if the long or short position is closed at a price level among a range of price levels for the tradeable object;

displaying via the computing device the plurality of values along a value axis;
displaying via the computing device a first indicator at a first location corresponding to a first value along the value axis, wherein the first indicator represents a particular price based on any of the following prices: current best bid, current best ask, and a last traded price, and wherein the first value represents a profit or loss incurred by the user if the long or short position is closed at the particular price; and

moving the first indicator relative to the value axis to a second location corresponding to a second value along the value axis responsive to receipt of an update to the particular price, wherein the second value represents a profit or loss incurred by the user if the position is closed at the update to the particular price.

Practice tips and takeaways: Practitioners should focus on technical solutions, technical improvements or improved functionality for user-interface based inventions.

Case link: http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/17-2323.Opinion.4-30-2019.pdf

Art Unit, Examiner: 3695, Chia-Yi Liu

Citations: [1]Trading Techs. Int'l, Inc. v. IBG LLC, 921 F.3d 1378 (Fed. Cir. 2019)

Panelists: Moore, Clevenger, Wallach

University of Florida Research Foundation Inc v General Electric Company

Overview:
Appeal from the United States District Court for the Northern District of Florida. Precedential - Ineligible. Appeal from the United States District Court for the Northern District of Florida motion to dismiss for failure to state a claim. US Patent No. 7,062,251 is directed to a bedside device collects physiologic treatment data from other bedside devices and converts the data to a canonical format using different drivers for each different bedside device. Decided: February 26, 2019.

Discussion:
Precedential - Include to contrast Cardionet case. Adds nothing to Electric Power or Intellectual ventures - collecting, analyzing, manipulating and displaying data - collects physiologic treatment data and converts to canonical format from different treatment bed equipment using different drivers. Court hints that if the operation of the different drivers had been explained in more detail, it might have made a difference. The claims basically computerize prior pen and paper methods with greater speed and accuracy. The court found the invention was basically a "do it on a computer" replacement for prior pen and paper methods. There is no explanation of how the drivers operate. The drivers are only recited in claim 10, but in functional language that still does not describe how the conversion is performed. Contrast with Cardionet v. Infobionic where similar claims were found eligible: detecting heart rhythm problems from well known measurements http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/19-1149.Opinion.4-17-2020_1571885.pdf. In Cardionet, the claims were found to "focus on a specific means or method that improves" cardiac monitoring technology; they are not "directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery." McRO, 837 F.3d at 1314 (citations omitted)." In Cardionet, technical details were provided in the specification.

Representative claim:
1. A method of integrating physiologic treatment data comprising the steps of: receiving physiologic treatment data from at least two bedside machines;

converting said physiologic treatment data from a machine specific format into a machine independent format within a computing device remotely located from said bedside machines;

performing at least one programmatic action involving said machine-independent data; and

presenting results from said programmatic actions upon a bedside graphical user interface.

Practice tips and takeaways:
Describe the technical benefits and technical details as much as possible.

Case link:
http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1284.Opinion.2-26-2019.pdf

Art Unit, Examiner: 2617, Erika Alise Washington

Citations: Univ. of Florida Research Foundation Inc v General Electric Co., 916 F.3d 1363 (Fed. Cir. 2019)

Panelists: Prost, Moore, Wallach

VERIPATH, INC., v. DIDOMI

Overview: Appeal from S.D. of New York - Decided February 8, 2021

VeriPath appealed from a decision of the S.D. of New York holding that the claims of U.S. Patent No. 10,075,451 were not directed to eligible subject matter under 35 USC 101.

Patent at issue: U.S. Patent No. 10,075,451

Decision: Affirmed.

The patent is directed to a data privacy system.

Note: This decision is nonprecedential.

Discussion: Veripath sued Didomi and asserted that they infringed at least claim 1 of the patent. Didomi filed a motion to dismiss the complaint for failure to state a claim pursuant to Federal Rule of Procedure 12(b)(6) and asserted that the claims were ineligible under 35 USC 101. The district court found that claim 1 was directed to "the abstract idea of granting permission to access personal information in exchange for enhanced functionality via the API, a routine piece of software." At Alice step two, the court determined that claim 1 lacked an inventive concept sufficent to convert the abstract concept into a patent-eligible application. The Federal Circuit found that "stripped of excess verbiage, at its most basic level, claim 1 is anchored on the abstract idea of exchanging privacy for functionality."
Rather, claim 1 was directed to no more than an improvement to the abstract notion of exchanging privacy for functionality that utilizes an API to achieve the desired result. It was found that it was improving a fundamental practice or abstract process by invoking a computer merely as a tool.

At Alice step two, the court found that none of the steps viewed both individually and as an ordered combination transformed the nature of the claim into patent-eligible subject matter. Rather, claim 1 implemented the abstract idea using conventional steps specified at a high level of generality.

Representative claim: 1. A method for controlling access to a user's per-sonal information comprising:
providing a software component for inclusion in an application, the

software component having an application programming interface (API);

obtaining, from the application executing on a device of a user of the application, personal information about the user of the application, the personal information obtained via the API by the software component executing on the device;

identifying the type of the obtained personal information;

determining, based on at least the type of obtained personal information, a required permission from the user for at least one proposed use of the obtained personal information;

presenting, to the user, a first offer to provide access to at least one enhanced function of the application in exchange for the required permission; and

responsive to the user providing the required permission, providing the user with access to the at least one enhanced function of the application.

Practice tips and takeaways:	It is important to claim a technological improvement to computer functionality. VeriPath argued that the claimed system "can generate different privacy disclosures based on a user's location in real-time" and "the remote database managing the privacy disclosure policies upon which the user-specific disclosure is generated can be regularly updated without the need for users to agree to the updates." However, these features are not claimed. In addition, VeriPath failed to explain how generating a disclosure before it is presented to a user is anything but routine and conventional under Alice step two.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/20-1777.OPINION.2-8-2021_1729290.pdf
Art Unit, Examiner:	2434, Jacob Lipman
Citations:	[1] Veripath, Inc., v. Didomi, 2020-1777, (Fed. Cir. Feb. 8, 2021).
Panelists:	Lourie, Chen, Hughes

Visual Memory LLC v. NVIDIA Corp

Overview:

Appeal from D. Delaware - Decided August 15, 2017.

District court held that Visual Memory's US Patent No. 5,953,740 was drawn to patent-ineligible subject matter and that complaint failed to state a claim under 12(b)(6). The '740 patent applies to a common three-tiered memory hierarchy used in computer systems, which includes a bulk storage memory, a medium-speed main memory, and a high-speed processor cache memory. This hierarchical memory system allows executing programs quick access to required data, but lacks versatility because it has to be designed based on the particular type of processor selected for use in that system. The '740 patent purportedly overcomes this deficiency by using a memory system with programmable operational characteristics ("POC") that self-configure based on the type of processor connected to the memory system. Visual Memory appealed the district court's dismissal of patent infringement complaint against NVIDIA. Federal Circuit reversed and concluded that the claims were directed to an improvement to computer memory systems and not directed to an abstract idea.

Discussion:

Federal Circuit noted that Enfish and Thales informed their evaluation of whether claims are "directed to" an abstract idea. The key question is whether the focus of the claims is on the specific asserted improvement in computer capabilities or instead on a process that invokes a computer as a tool. [1] The court found that the claims were directed to an improved computer memory system, not to the abstract idea of categorical data storage. [2] The court noted that the specification explains multiple benefits that flow from the '740 patent's improved memory system. Thus, the court found that the claims were directed to a technological improvement: an enhanced computer memory system. The distinction between the '740 patent and patent-ineligible claims in Content Extraction and TLI Communications is that the claims in '740 are directed at specific improvements to computer functionality, while Content Extraction was related to a method for using a computer to extract data from hard copy documents, and TLI was related a method of classifying and storing digital images that merely involved a computer and server. [3] The court concluded that the claims were not directed to an abstract idea, and thus did not analyze the claims under step two of the Alice test.

Representative claim:

1. A computer memory system connectable to a processor and having one or more programmable operational characteristics, said characteristics being defined through configuration by said computer based on the type of said processor, wherein said system is connectable to said processor by a bus, said system comprising:

• a main memory connected to said bus; and

• a cache connected to said bus;

• wherein a programmable operational characteristic of said system determines a type of data stored by said cache.

Practice tips and

If you are drafting an application, it is important to include and explain benefits in the

takeaways:	specification. This is one of a few recent Federal Circuit cases that look to the specification to see if there are improvements to computer functionality. If the application has already been drafted and you are in prosecution, attempt to find something that you can hang your hat on.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/16-2254.Opinion.8-11-2017.1.PDF
Art Unit. Examiner:	4171, David Robertson
Citations:	[1] Visual Memory LLC v. NVIDIA Corp., 867 F.3d 1253, 1258 (Fed. Cir. 2017). [2] *Id.* at 1259. [3] *Id.* at 1260.
Panelists:	O'Malley, Stoll, Hughes (dissent)

Voit Technologies LLC v Del-Ton Inc

Overview:

Non-precedential. Appeal from the United States District Court for the Eastern District of North Carolina - 12(b)(6) motion to dismiss for failure to state a claim. Affirmed as Ineligible subject matter. The claims of US Patent No. 6,226,412 were found to be directed to the abstract idea of processing data to buy and sell items. Decided: February 8, 2019.

Discussion:

Directed to the abstract idea of processing data to buy and sell items. Did not improve the performance of the computer. Compression techniques were not new and statements that they improved the performance of the computer were too general. "Voit's broad assertion that the Asserted Claims 'allow[ed] more rapid transmission of higher resolution digital images' via 'advanced image data compression' is unsupported".

Representative claim: 1. A method of buying and selling an item relating to unique subjects, comprising the steps of:

a. providing at least one uniquely identifiable remote data terminal, for communicating with a central computer managing a relational database for a transaction between a buyer and a seller;

b. entering the following at the at least one data terminals:

textual information descriptive of a subject in a structured fashion, including modifiable and non-modifiable data fields, and image information representative of the subject;

c. data-compressing the image data into a first image format;

d. separately transferring the textual and image data in the first format to the central computer by batch upload, the following steps being performed at the location of the central computer;

determining which remote data terminals are authorized to transmit subject oriented textual and image data, and storing information relating thereto;

receiving textual and image data from an authorized remote data terminal;

creating a first set of unique records identifying the textual information associated with teach subject received from each remote data terminal;

creating a second set of unique records identifying the image data associated with each

subject received from each remote data terminal;

storing the image data separately from the textual information in a data-compressed second image format;

storing the textual information separately from the image data in relational form, along with information identifying the location of the separately stored image data corresponding thereto;

receiving subject-related requests relating to the transaction from at least one of the remote data terminals;

locating textual information corresponding to the subject-related requests relating to the transaction when requested;

transmitting the located textual information to the requesting remote data terminal; and

locating subject-related image data in response to the request when requested;

transmitting the related image data in a second data-compressed format;

e. de-compressing the images in the second data compressed format at the requesting remote data terminal; and

f. displaying the de-compressed images along with textual information at the requesting remote data terminal.

Practice tips and takeaways:	Practice hints on overcoming electric power (analyze and display data is abstract idea) and intellectual ventures (improved speed inherent in computer) - directed to the abstract idea of processing data to buy and sell items. Include more description in the specification regarding how the claimed elements improve performance of the computer or some other technical aspect not directly related to commercial transactions. Making a business method faster will not suffice.
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/18-1536.Opinion.2-8-2019.pdf
Art Unit, Examiner:	Jayanti K Patel
Citations:	Voit Technologies LLC v Del-Ton Inc., 757 Fed.Appx. 1000 (Fed. Cir. 2019)
Panelists:	Wallach, Taranto, Stoll

Voter Verified, Inc. v. Election System & Software LLC

Overview:	Appeal from United States District Court for the Northern District of Florida - Decided April 20, 2018. U.S. Reissue Patent RE40,449 at issue is directed to "voting methods and systems" that provide for "auto-verification" of a voter's ballot". [1] After initially concluding that issue preclusion did not apply with respect to invalidity of patent claims under § 101 based on a prior infringement suit between the parties, the Federal Circuit in Voter Verified affirmed the subject matter ineligibility of the patent claims. In particular, the Federal Circuit found that the method and system "claims as a whole are drawn to the concept of voting, verifying the vote, and submitting the vote for tabulation" that is a "fundamental [human] activity" corresponding to an "abstract idea" under step two of the Mayo/Alice test. The Federal Circuit further found "no inventive concept in the claims sufficient to transform them into patent-eligible subject matter" under step two of the Mayo/Alice test.
Discussion:	In Voter Verified, the Federal Circuit first dealt with whether issue preclusion prevented Election Systems from relitigating the invalidity of patent claims under § 101 based on a prior infringement lawsuit between the parties. The prior lawsuit concluded after Mayo but before Alice. The Federal Circuit concluded that Alice did not result in an intervening change in the law, since the Supreme Court in Alice "did not alter the governing law of § 101" but merely applied the same test as the Court created in Mayo. However, the Federal Circuit subsequently concluded that issue preclusion does not apply in this case since the "§ 101 issue was not actually litigated" but "barely considered" since "the § 101 issue of invalidity was not necessary to the judgment in the first district court action." In its § 101 analysis, the Federal Circuit found that the claims of U.S. Reissue Patent RE40,449 patent ineligible. Under step one of the Mayo/Alice test, the Court found that the claims were directed to the abstract "concept of voting, verifying the vote, and submitting the vote for tabulation", noting that "[h]umans have performed this fundamental activity that forms the basis of our democracy for hundreds of years" and that these steps are "human cognitive actions." Under step two of the Mayo/Alice test, the court concluded that the claims lacked an "inventive concept" and that the "standard components" cited in the claims (e.g., "a standard personal computer," "a visual display device", "a keyboard", "data storage devices," "a laser printer," and "a scanner") "are not sufficient to transform abstract claims into patent-eligible subject matter."
Representative Claim:	"Method claim 85 is representative of the ""self-verification"" voting method claims of the Reissue Patent RE40,449. 85. A method for voting providing for self-verification of a ballot comprising the steps of: (a) voting by a voter using a computer voting station programmed to present an election ballot, accept input of votes from the voter according to the election ballot, temporarily store the votes of the voter;

store the votes of the voter;

(b) printing of the votes of the voter from the votes temporarily stored in the computer for the voting station;

(c) comparison by the voter of the printed votes with the votes temporarily stored in the computer for the voting station;

(d) decision by the voter as to whether a printed ballot is acceptable or unacceptable; and

(e) submission of an acceptable printed ballot for tabulation.

System claim 56 is representative of the ""self-verifying"" voting system claims of the Reissue Patent RE40,449.
56. A self-verifying voting system comprising:
one or more voting stations comprising:
(a) one or more computer programs which operate in a computer to display general voting instructions, at least one election ballot showing the candidates and/or issues to be voted on, and directions to the voter for operation of the system;

present the election ballot for voting and input of votes by the voter;

accept input of the votes from the voter;

print out the election ballot according to which the voter voted with the votes of the voter printed thereon, so that the votes of the voter are readable on said election ballot by the voter and readable by a ballot scanning machine; and
record the votes in the computer;

(b) at least one computer with at least one display device, at least one device to accept voting input from a voter, and sufficient memory to provide for the operation of said computer program;

(c) a printer connected to said computer for printing the election according to which the voter voted;

(d) a ballot scanning machine for reading the votes on the printed ballot printed according to the election ballot which the voter voted and a means for tabulating the printed ballots generated by said one or more voting stations."

Practice tips and takeaways:	To avoid the § 101 subject matter issues raised by the Federal Circuit in Verified Voter, review all your method claims to determine if they can include steps that cannot be performed as "human cognitive actions" or mental process steps; if possible, include system claims that do not mirror the process steps of the method claims, and include components that can be supported as not being "standard components"; and support in your specification that your method steps include one or more limitations that represent a specific application under the USPTO 2019 Examination Guidelines and an inventive concept under that transforms the process (if deemed to be directed to an abstract mental process or fundamental activity) into substantially more.

Case link: https://cafc.uscourts.gov/opinions-orders/17-1930.opinion.4-18-2018.1.pdf

Art Unit, Examiner: 2887, April Alicia Taylor

Citations: [1] Voter Verified, Inc. v. Election Sys. & Software LLC, 887 F.3d 1376 (Fed. Cir. 2018)

Panelists: Newman, Lourie, and Reyna

Yu v. Apple

Overview:
This is a precedential decision affriming a district court's ruling that U.S. Patent No. 6,611,289 was invalid under 35 U.S.C. § 101. [1] The technology relates to digital camera functionality that provides a specific solution to problems such as
low resolution caused by low pixel counts and inability to show vivid colors because of limited pixel depth by taking one image and enhancing it with another.
Decided: June 11, 2021

Discussion:
A divided Federal Circuit panel affirmed the district court and found the claims were directed to a "result or effect that itself is the abstract idea and merely invoke[s] generic processes and machinery" rather than "a specific means or method that improves the relevant technology." The claims recited only conventional camera components to effectuate the resulting "enhanced" image—two image sensors, two lenses, an analog-to-digital converting circuitry, an image memory, and a digital image processor. And, as claimed, these conventional components perform only their basic functions (e.g., "said first image sensor producing a first image," "said second image sensor producing a second image," "an analog-to-digital converting circuitry [for] digitizing . . . images," "an image memory . . . for storing said first digital image and said second digital image") and are set forth at a high degree of generality. Here, the claimed hardware configuration itself is not an advance and does not itself produce the asserted advance of enhancement of one image by another, which was found to be an abstract idea.

In her dissenting opinion, Judge Newman emphasized that "claim 1 is for a digital camera having a designated structure and mechanism that perform specified functions; claim 1 is not for the general idea of enhancing camera images. The camera of the '289 patent may or may not ultimately satisfy all the substantive requirements of patentability, for this is an active field of technology. However, that does not convert a mechanical/electronic device into an abstract idea." But Judge Newman's arguments did not sway the opinions of her co-panelists.

Representative claim:
1. An improved digital camera comprising:

a first and a second image sensor closely positioned with respect to a common plane, said second image sensor sensitive to a full region of visible color spectrum;

two lenses, each being mounted in front of one of said two image sensors;

said first image sensor producing a first image and said second image sensor producing a second image;

an analog-to-digital converting circuitry coupled to said first and said second image sensor and digitizing said first and said second intensity images to produce correspondingly a first digital image and a second digital image;

an image memory, coupled to said analog-to-digital converting circuitry, for storing said first digital image and said second digital image; and

a digital image processor, coupled to said image memory and receiving said first digital image and said second digital image, producing a resultant digital image from said first digital image enhanced with said second digital image.

Practice tips and takeaways:	Practitioners should not simply claim a generic environment and a result. In particular, generic hardware configurations performing an expected ordinary use will not save a claim that includes only high-level functional claim elements focused on the result.

The Applicant in this case may have avoided a decision that the claims for "an improved digital camera" were abstract if the Applicant had emphasized the placement of the two image sensors relative to each other within the camera body enabled corresponding referenced images to be simultaneously captured for generating "a resultant digital image from said first digital image enhanced with said second digital image."   Like other Federal Circuit cases that support inventive concept, the arrangement of otherwise conventional elements may be key to supporting an improvement that is "substantially more". |
Case link:	http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/20-1760.OPINION.6-11-2021_1789244.pdf
Art Unit, Examiner:	2612, TOPPIN, CATHERINE J
Citations:	[1] Yu v. Apple Inc, No. 2020-1803, 2021 (Fed. Cir. 2021)
Panelists:	NEWMAN, PROST, and TARANTO

Ex Parte Adjaoute (Proceeding #2018007443)

Overview:

Applicant appealed from a rejection of US Patent Application No. 14/815,940 claims 1-16 based on 101. The Board reversed the Examiner.

Technology: The claims recite "ecite monitoring operation of machines using neural networks, logic decision trees, confidence assessments, fuzzy logic, smart agent profiling, and case-based reasoning ." Claim 1 was considered the illustrative claim. [1]

Discussion:

Step 2A, Prong 1: The Examiner contended that claim 1 was directed to monitoring the operation of machines and considered that to be a fundemental economic practice. The Board disagreed stating that "Specifically, we do not find "monitoring the operation of machines" as recited in the instant application, is a fundamental economic principle (such as hedging, insurance, or mitigating risk). Rather, the claims recite monitoring operation of machines using neural networks, logic decision trees, confidence assessments, fuzzy logic, smart agent profiling, and case-based reasoning." [1]

The Board went on to clarify that the claims are also not a mental process because "as recited [the claims] are not practically performed in the human mind. As discussed above, the claims recite monitoring operation of machines using neural networks, logic decision trees, confidence assessments, fuzzy logic, smart agent profiling, and case-based reasoning." [1]

The Board further went on to compare the claims to Example 38 in the USPTO's Subject Matter Eligibility Examples and state that the claims do not recite a mathematical concept.

Therefore, the Board found the claims to be patent eligible. However, the Board continued the analysis to Prong 2.

Step 2A, Prong 2 (additional analysis): The Board further found that the claims are integrated into a practical application. The opinion provides a good, detailed analysis of the Board's process for arriving at this decision. Briefly, the Appellant provided detailed arguments about "the virtual world of a computer" and how specific limitations are tied directly thereto.

Representative claim:

1. A method for monitoring the operation of machines and for issuing calls for preventative maintenance and predictions of equipment failures, comprising:
   attaching monitoring devices, instruments, and transducers to a machine subject to operational failures;
   reading in measurements and data obtained by the monitoring devices, instruments, and transducers regarding the status and operation of the machine;
   empaneling a jury of classification models as jurors to assess the measurements and data

obtained with a separate computer programmed for that purpose;

presenting all the measurements and data obtained to the jury with a separate computer programmed for that purpose;

classifying the measurements and data obtained and presented to the jury according to a logic decision tree and outputting a juror vote that includes a confidence assessment with a separate computer programmed for that purpose;

classifying the measurements and data obtained and presented to the jury according to a neural network and outputting another juror vote that includes a confidence assessment with a separate computer programmed for that purpose;

classifying the measurements and data obtained and presented to the jury according to a fuzzy logic and outputting another juror vote that includes a confidence assessment with a separate computer programmed for that purpose;

classifying the measurements and data obtained and presented to the jury according to a smart agent profiling and outputting another juror vote that includes a confidence assessment with a separate computer programmed for that purpose;

classifying the measurements and data obtained and presented to the jury according to business rules and outputting another juror vote that includes a confidence assessment with a separate computer programmed for that purpose;

classifying the measurements and data obtained and presented to the jury according to case-based reasoning and outputting another juror vote that includes a confidence assessment with a separate computer programmed for that purpose;

collecting all the juror votes into a single ballot and mathematically apply individual weights in calculations to each respective juror vote with respect to its own confidence assessment and a priori data inputs with a separate computer programmed for that purpose;

tallying a verdict from the results obtained in the previous steps, and that predicts an operational failure of the machine by outputting a report with a separate computer programmed for that purpose; and

tallying another verdict from the results obtained in the previous steps, and that summons a particular service procedure and/or a replacement part for the machine by outputting another report so the costs of maintaining the machine are reduced.

Practice tips and takeaways:	It is quite likely that other Boards may interpret Step 2A, Prong 1 differently and find that the claims recite an abstract idea. The takeaways from this case lies in the additional Step 2A, Prong 2 analysis. The Board's conclusion that the claims recite a practical application appear to be due in no small part to the Appellant's detailed arguments and clear inclusion of specific claim elements in these arguments. Detailed arguments that incorporate specific claim elements appear to have been more favorably received in this and other cases by various Boards and, where possible, should be incorporated into responses and appeal briefs.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018007443
Art Unit, Examiner:	3697, Ojo O Oyebisi
Citations:	[1] Ex Parte Adjaoute, No. APPEAL 2018-007443 (P.T.A.B. Oct. 10, 2019)
Panelists:	Stephens (author), Whitehead Jr, Morgan

Ex Parte Allen (Proceeding #2019002768)

Overview:	Applicant Appeal

Applicant appealed Final Office Action rejection of claims 1-8, 11-18, and 20-23 of Application No. 15/263,889 directed to a hybrid approach for handling hypothetical statements in natural language text parsing under 35 U.S.C. 101 as directed to patent-ineligible subject matter.

PTAB Holding: The PTAB affirmed the Examiner's 101 rejection. The PTAB relied on the 2019 Revised Guidance on patent subject matter eligibility and found that: (1) the claims recite concepts performed in the human mind under Step 2A, Prong One of the Revised Guidance; and (2) the generic computing features of the claim and the lack of technology improvement in the Specification fail to demonstrate a practical application under Step 2A, Prong Two.

Technology: The appealed claims are directed to a "hybrid approach to handling hypothetical statements in texts" including analyzing natural language content to generate a parse tree data structure and describing how to handle hypothetical statements within that structure.[1]

Discussion:

First, the Board determined that the claims did recite "concepts performed in the human mind" with "the assistance of pen and paper" including weighting so-called "hypothetical" spans of text and modifying the hypothetical sub-tree within the natural language parsing tree to remove "factual" predicates for the hypothetical statement. [2] The Board found that this analysis constituted an "observation, evaluation, judgment, opinion" under the Revised Guidance and therefore captured an abstract idea. [3]

Turning to Step 2A, Prong 2, the Board found that the computing elements in the claim were purely generic, and therefore could not constitute a practical application. [4] The Board further found that pursuant to the October 2019 Update, the specification and claims did not recite any improvement to technology. [5] In particular, the Board found that the "different weightings" for hypothetical spans and modification to the processing of a hypothetical sub-tree were not an improvement to the data processing system. [6] According to the Board, the alleged improvements to handling hypothetical statements would be an abstract idea itself and not constitute an improvement to computing technology. [7]

Lastly, given the claim recited only generic computing components, the Board found there to be no inventive concept under Step 2B. [8] The Board therefore sustained the Examiner's rejection under Section 101. [9]

Representative claim:

1. A method, in a data processing system comprising at least one processor and at least one memory, the at least one memory comprising instructions which are executed by the at least one processor and specifically configure the processor to perform the method, wherein the method comprises:

receiving, by the data processing system, natural language content;

analyzing, by the data processing system, the natural language content to generate a parse tree data structure stored in the at least one memory of the data processing, system;

processing, by the data processing system, the stored parse tree data structure to identify one or more instances of hypothetical spans in the natural language content represented by the stored parse tree data structure, wherein hypothetical spans are terms or phrases indicative of a hypothetical statement; and

performing, by the data processing system, an operation based on the natural language content and the identified one or more instances of hypothetical spans in the natural language content, wherein the operation is performed with portions of the natural language content corresponding to the one or more identified instances of hypothetical spans within portions of the natural language content being given different relative weights in a function performed by the operation than other portions of the natural language content that do not have one or more identified instances of hypothetical spans, wherein processing the stored parse tree data structure further comprises:

processing the parse tree data structure to identity instances of factual triggers, wherein factual triggers are terms or phrases indicative of a factual statement;

determining if a factual sub-tree, associated with a factual trigger, is present within a hypothetical sub-tree; and

in response to the factual sub-tree being present within a hypothetical sub-tree, removing the factual sub-tree from the hypothetical sub-tree to generate a modified hypothetical subtree prior to further processing of the modified hypothetical subtree.

Practice tips and takeaways:	1) Natural language processing methods constitute abstract ideas.
	2) Improvements to those methods, standing alone, may not constitute a practical application or inventive concept.
	3) The specification and claim itself must demonstrate an improvement to computing technology associated with the improved AI/NL method.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019002768
Art Unit, Examiner:	2659, Baker
Citations:	[1] Allen, 2019-002768 at 1-3 (PTAB June 25, 2020). [2] Id. at 8. [3] Id. [4] Id. at 9-11. [5] Id. [6] Id. [7] Id. [8] Id. at 13-14. [9] Id.
Panelists:	Evans, Chung (Author), Silverman

Ex Parte Avery (Proceeding #2018007519)

Overview: Applicant Appeal - Decided: July 8, 2020

Applicant appealed from a 101 rejection of claims 1-3, 5-14, 20 and 21 of US Pat. App. No. 13/297041. The Board reversed the Examiner's rejection, finding that the claim limitations that the Examiner ruled were merely collecting information and analyzing it instead integrate the otherwise abstract mental process into a practical application for electronic polling graphical user interfaces. The Board also reversed the Examiner's 103 obviousness rejection of the same claims.

Technology: The claims are directed to a method of displaying an electronic polling request on a graphical user interface and receiving scoring information from a user.

Discussion: Under Step 2A, prong 1 of the Mayo/Alice test as augmented by the USPTO 2019 Revised Patent Subject Matter Eligibility Guidance (the "USPTO 2019 SME Guidance"), the Board found that the representative claims "recite a mental process" because the individual claim limitations pertain to either "collecting information, analyzing it, and displaying certain results" or "relates to the judgment of the user which pertains to [a] mental process." [2]

Under Step 2A, prong 2 of the USPTO 2019 SME Guidance, the Board found that several of the claim limitations integrate the abstract mental process into a practical application. In particular, citing the patent specification, the Board stated that limitations that integrate the claim into a practical application require "laying layer over an image provides a 2-dimensional graphical interface including an image, by which a user can position a pointing and selecting device over the image and quickly and easily provide evaluation of the image in two criteria simultaneously by positioning an onscreen cursor." The Board then concluded that "the use of the claimed method of laying layer over an image provides a specific technological improvement over prior electronic polling graphical user interfaces."

Since the Board found that the claims are subject matter eligible under Step 2A, prong 2, the Board did not reach the question of whether the claims "provide an inventive concept" under step 2B of the Mayo/Alice test.   But likely that analysis would have been substantially the same as finding the claims are directed to a "practical application" under Step 2A, prong 2.

Plus, the Board went on to reverse Examiner's 103 obviousness rejection, finding that "the Examiner failed to explain adequately how the disclosures of [the three cited prior art references] would have suggested a method of displaying an electronic polling request on a graphical user interface comprising providing a graphical interface including an image and laying a transparent <div> layer over the image as required by independent claim 1."

Representative claim: 1. A method of displaying an electronic polling request on a graphical user interface and receiving scoring information from a user, the method comprising:
providing a graphical interface to a user, the graphical interface including an image, a first label associated with a first dimension of the image, and a second label associated with a second dimension of the image;

determining a size of the image;

laying a transparent <div> layer over the image, a size of the div layer being based on a size of the image, the <div> layer being sufficiently transparent to allow the user to view the image therethrough, the <div> layer acting as an image map of the image;

when a user selects a location on the image by a selection action, using the image map to obtain x- and y-axis coordinates of the location selected by the user; and simultaneously with the user selecting the location, displaying to the user the coordinates of the selected location;

wherein the user interface allows the user to identify a two-dimensional location on the image using a single user motion, the image being updated simultaneously with the motion to provide an immediate visual numerical feedback to the user corresponding to said location on the image;

the user interface further allowing the user to select the two-dimensional location on the image using a single user selection action;

wherein the two-dimensional location selected by the user corresponds to the user's subjective evaluation in two different criteria of at least one of the image itself and something represented by the image, the two different criteria corresponding to the first label associated with the first dimension of the image and the second label associated with the second dimension of the image.

Practice tips and takeaways:	For patent practitioners that need to address a 35 U.S.C. § 101 rejection of their software related patent application, this PTAB provides a good summary of Federal Circuit cases that support current treatment of Mayo/Alice test for subject matter eligibility under 35 U.S.C. § 101 as well as adaption of the Mayo/Alice test under the USPTO 2019 SME Guidance. This Board also provides a well structured approach for stepping through the Examiner's basis for rejection and Applicant's counter argument for each step of the Mayo/Alice test in accordance with the "USPTO 2019 SME Guidance. In particular, the PTAB summarizes the USPTO 2019 SME Guidance for "limitations that are indicative of "integration into a practical application" versus limitations that are not.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018007519
Art Unit, Examiner:	3621
Citations:	[1] Avery, 2018007519 (PTAB July 8, 2020). [2] Id. at pg. 13.
Panelists:	Smith (author), Benoit, Bennett

Ex Parte Bakker (Proceeding #2020000940)

Overview:	Applicant appealed from a rejection of US Patent Application No. 14/434,286 claims 1-4, 6-8, 10, 11, 13, 14, and 16-24 based on 101. Other rejections were appealed but not addressed in this summary. The Board affirmed the Examiner.
	Technology: The claims recite apparatuses for determining whether an anticoagulant should be administered based on a thrombosis risk. Claim 1 was considered the illustrative claim. [1]
Discussion:	The Appellant argued independent claims 1, 16, and 18 as a group, which allowed the Board to select the representative claim, which they selected as claim 1. The Board did not consider the dependent claims individually either because "Appellant's arguments summarizing dependent claim limitations and asserting, without any analysis, that these dependent claims impose further meaningful limits on the abstract idea (see Appeal Br. 9–10) do not present cognizable argument for the separate patentability of those claims." Accordingly, the 101 decision for claim 1 held for all claims. [1]
	Step 2A, Prong 1: The Board goes through a lengthy analysis of the various arguments of the Appellant, which includes significant comparison to case law. The Appellant's arguments are often not considered persuasive because the Appellant argues limitations not in claim 1. For example, the Appellant argues the details of the claim term "decision support algorithm" including that the algorithm is created by machine learning. However, corresponding limitations are not present in claim 1. [1]
	Step 2A, Prong 2: The Board further found that the claims do not integrate the abstract idea into a practical application. The Appellant argues that the appartus improves the accuracy of identifying patients with high thrombotic risk. The Board provides a detailed analysis of this that comes down to sufficient specificity is not provided in claim 1 to provide meaningful limitations to teh calculations. Further, the Board finds that the apparatus is not specific and does not impose meaningful limitations to consider the claim integrated into a practical application. [1]
	It should be noted that claim 1 mearly calculates and outputs a prescription for an anticoagulant, no actual treatment is claimed. Further, independent claim 16 was a method claim but because claim 16 was not argued separately, claim 16 fell with claim 1.

Representative claim:	1. An apparatus that determines whether an anticoagulant is to be administered to a patient based on an estimation value of thrombosis risk of the patient based on patient-specific input features, the apparatus comprising:
	  a data interface that receives the input features;
	  a processor that:
	    calculates the estimation value by applying a decision support algorithm as a function of numerical values derived from the received input features;
	    compares the estimation value to a threshold value;
	    if the estimation value exceeds the threshold value, prescribe an anticoagulant to the patient;
	    if the estimation value does not exceed the threshold value, do not prescribe the anticoagulant to the patient and
	    a user interface that outputs the estimation value and, if the estimation value exceeds the threshold, outputs the prescription of an anticoagulant treatment to be administered to the patient;
	    wherein the input features include a combination of at least one clinical risk factor and at least one protein concentration of the patient.

Practice tips and takeaways:	When presenting arguments, ensure the arguments are based on claim limitations present

in the exact claim you are arguing. Further, if you want the Board to consider dependent claims, you must clearly and specifically argue those claims. Arguing an independent claim and simply stating that dependent claims impose further limitations to the abstract idea is not sufficient for the Board to consider the dependent claims. Again, identify all claims specifically that you are arguing and present arguments that clearly relate to a specific limitaiton(s) in that claim.

Also, consider arguing more than just the first independent claim. It is unclear in this matter if claim 16, if argued, would have overcome the 101 rejection, but claim 16 was a method and included active administration of anticoagulant would have been enough to integrate the claim into a practical application. But, based on Example 43, if an argument could be made for the anticoagulant being a specific treatment, claim 16 may have overcome the 101 rejection.

Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2020000940
Art Unit, Examiner:	3626, Dilek B Cobanoglu
Citations:	[1] Ex Parte Adjaoute, No. APPEAL 2020-000940 (P.T.A.B. June 23, 2020)
Panelists:	Calve (author), Osiniski, Capp

Robert B. Basham et al. (Proceeding #2019000156)

Overview: Applicant appealed from Examiner's decision to reject claims 2-9 and 21-31 of US Pat. App.
No. 14/449600 under 35 USC 101. The Board determined that the claims did not recite an
abstract idea under Step 2A, Prong One and reversed the Examiner's rejection of claim 2
and its dependent claims.

Technology: Efficiently managing storage in a multi-tiered storage system

Discussion: The PTAB looked to the revised guidance that was published by the USPTO after the
appeal was docketed. The guidance was published in October 2019 and looks to whether
a claim recites any judicial exceptions and additional elements that integrate the judicial
exception into a practical application. If a claim recites a judicial exception and does not
integrate the exception into a practical application, the guidance indicates that it should
be determined whether the claim adds a specific limitation beyond the judicial exception
or simply appends well-understood, routine, conventional activities previously known to
the industry, specified at a high level of generality, to the judicial exception. [1]

The Examiner found that claim 2 was directed to an abstract idea of "storing of data in a
multi-tiered storage system." Further, the Examiner indicated that claim 2 recites the
steps for sorting of information by the storage device, which is an abstract idea similar to
the concepts that have been identified as abstract by the courts, such as organizing
information through mathematical correlations in Digitech or data recognition and storage
in Content Extraction. [2]

Under Step 2A, Prong One, the Board found that claim 2 is directed to a specific
implementation, including receiving a command, directed from an object, from an
application, determining storage for the object in a multi-tiered storage system, and
storing the object. The Board noted that these are not steps that can practically be
performed mentally. In addition, the Board found that the claimed invention does not
recite certain methods of organizing human activity or mathematical concepts. Thus, the
Board concluded that the Examiner erred at Step 2A, Prong One in determining that the
claims recite an abstract idea. The Board reversed the rejection of claim 2 and its
dependent claims. [2]

Representative   2.   A computer program product for efficiently managing storage in a multi-tiered storage
claim: system, the computer program product comprising a computer readable storage medium
instructions executable by a processor to cause the processor to perform a method
comprising:
receiving, by the processor, a command from an application, wherein the command is
directed to at least one
object;

determining, by the processor, storage for the at least one object in a multi-tiered storage
system based on the command; and

storing, by the processor, the at least one object in accordance with the determined
storage, wherein the command includes at least one of collocation and anti-collocation
guidance from the application for the at least one object.
[3]

Practice tips and takeaways:	If you can, explain in the specification or in a response to a rejection under 35 USC 101 why the claimed subject matter cannot practically be performed mentally.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019000156
Art Unit, Examiner:	2132, Ramon A. Mercado
Citations:	[1] Basham, 2019004101 at 5 (PTAB February 24, 2020). [2] Id. at 6. [3] Id. at 2.
Panelists:	Thomas, Whitehead Jr., Raevsky (author)

Ex Parte Betancourt (Proceeding # 2018003641)

Overview: Applicant Appeal – Decided August 30, 2019

Applicant appealed Final Office Action rejection of claims 1-6, 8-14, and 16-20 of Application No. 14/153,843 directed to a method of monitoring and authorizing wireless tags in a point-of-sale system under 35 U.S.C. 101 as directed to patent-ineligible subject matter, lacking written description support and indefinite under Section 112, and unpatentable under Section 103 in view of Betancourt and Brookner.

PTAB Holding: The PTAB upheld the rejection of claims 16-20 under Sections 101 and 112, and reversed the rejection of those claims under Section 103. The PTAB reversed rejections of the remaining claims under Sections 101 and 112.

Technology: The appealed claims are directed to a method for monitoring wireless tags in vehicles within the wireless area of a service station, including determining authorization of the wireless tags, triggering communication devices within a vehicle with the wireless tags, receiving authorization requests from the tag and wireless device, and activating fuel pumps based on the requests. [1]

Discussion: The PTAB first found that both representative claims 1 and 16 recited ineligible concepts in reciting steps of "authorizing transactions for selling goods," which is a "commercial interaction" that "includes longstanding conduct that existed well before the advent of computers and the Internet." [2] The PTAB next turned to Prong Two.

First, for claim 1, the PTAB went limitation-by-limitation through the claim and found that while some of the limitations recited the abstract idea itself or "insignificant data gathering," two limitations integrated the abstract idea into a practical application." [3] In particular, the limitations of receiving an authorization request including an authorized amount of fuel and thereafter activating the fuel pump to distribute the requested amount of fuel correspond to an improved computer functionality to enable vehicle transactions and specific user data entry through a dynamic user interface found in the specification. [4] The PTAB found that these limitations "provide improvements to the underlying technology or technical field, namely, vehicle transaction processing systems." [5] The limitations thus sufficiently limit the abstract idea in claim 1 into a practical application. [6]

However, for claim 16, the PTAB found that the limitations did not contain such specific recitations and instead the relevant limitation was generically directed to "collecting, displaying, and manipulating data" as part of the transaction, itself an abstract idea. [7] The remaining limitations were either the abstract idea itself or insignificant post-solution activity. [9] Therefore the claim as a whole merely used the computer as a tool to perform the abstract idea. [8] Further, since the specification describes the computer and elements in generic terms, the PTAB concluded those components were conventional computer components under Alice Step 2. [10]

Representative   1. A method, comprising:

monitoring, by a tag reader of a wireless system, for detection of a wireless tag of a vehicle within a predefined wireless service area of a service station associated with the wireless system;

system;

in response to detecting the wireless tag in the predefined wireless service area of the service station, determining, by the tag reader of the wireless system, whether the wireless tag of the vehicle is configured to request authorization through a point of sale of the service station;

in response to determining that the wireless tag is configured to request authorization through the point of sale, triggering, by the tag reader of the wireless system, a communication device within proximity of the vehicle to display a user information request on a display of the communication device, wherein the triggering comprises transmitting location information;

receiving, by the tag reader of the wireless system via the wireless tag of the vehicle, user-provided user information originating from the triggered communication device responsive to receiving the location information;

transmitting, by the tag reader of the wireless system to the point of sale, an authorization request comprising the user provided user information;

receiving, by the tag reader of the wireless system from the point of sale, an authorization indication responsive to the authorization request, wherein the authorization indication includes an authorized amount of fuel to be dispensed at a fuel pump;

activating the fuel pump to dispense the authorized amount of fuel in response to receiving authorization of user information of a user associated with the vehicle; and

transmitting, by the tag reader of the wireless system to the wireless tag of the vehicle, the authorization indication.

Practice tips and takeaways:	1) Detail within claims tying the claims to specific problems or concepts in the given technical field can help survive 101 challenges.
	2) A variety of differently scoped claims can provide options on appeal or challenge.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018003641
Art Unit, Examiner:	3693, Bartley
Citations:	[1] Ex Parte Betancourt, 2018-003614 at 2 (PTAB Aug. 30, 2019).
	[2] Id. at 17-19.
	[3] Id. at 21.
	[4] Id. at 22-23.
	[5] Id. at 23.
	[6] Id.
	[7] Id. at 23-24.
	[8] Id.
	[9] Id. at 25.
	[10] Id. at 28-29.
Panelists:	Bisk, Hume (Author), Dirba

Ex parte Bingham (Proceeding # 2018006696)

Overview:

US Patent App. No. 14/683,964, Filed April 10, 2015.

Appealed 101 rejection. Rejection was affirmed.

Claims found to be capable of being performed by a human being.

Discussion:

PTAB found claim 1 to be "directed to a method for identifying network threats where each step involves collecting information, analyzing that information, or generating weighted and normalized scores relating to the results of the analysis - each of these steps is capable of being performed by a human being." [1]

The PTAB then looked to the Revised Guidance to find that abstract ideas include mathematical concepts and mental processes. [2] The Appellant tried to argue that the claim was rooted in network computing, but the PTAB found that the network technology referred to in the claims is not claimed subject matter but rather is the peripheral source of the data that is subjected to the claimed mental processes and mathematical concepts. [3]

Regarding whether there were additional elements that integrated the judicial exception into a practical application, the PTAB found that "the abstract idea of claim 1 involves gathering data from 'network traffic for an Internet Protocol address across one or more ports of a primary network, the primary network in communication with a content distribution nework, the Internet Protocol address corresponding to a computing device,' and a 'content distribution network.'...this network technology is peripheral to the claims (as opposed to an 'additional element' thereof), merely specifying the technological environment of the claimed method...there is no improvement to technology, but rather application of preexisting technology to implement the abstract idea." [4] It was concluded that the claim was unlike McRO because the claimed invention merely obtains information from generic network technology to identify network threats. [5] Additionally, the network technology was found to be well-understood, routine, and conventional, and specified at a high level of generality. [6]

Representative claim:

1. A method for identifying network threats, the method comprising:
obtaining a network traffic dataset representative of network traffic for an Internet Protocol address across one or more ports of a primary network, the primary network in communication with a content distribution network, the Internet Protocol address corresponding to a computing device;
obtaining a content distribution network log associated with the content distribution network, the content distribution network log including a history of content requests by the Internet Protocol address;
correlating the network traffic dataset with the content distribution network log based on the Internet Protocol address to obtain network security data;
identifying one or more threat attributes representative of malicious activity from the network security data;
weighting the one or more threat attributes; and
generating network threat intelligence, including a reputation score for the Internet Protocol address, based on the weighted threat attributes using a processing cluster, wherein the reputation score is normalized based on one or more neighborhood scores, each neighborhood score corresponding to an Internet neighborhood of the Internet Protocol address.

Practice tips and takeaways:	The claim includes "generating network threat intelligence" but does not define this term other than a reputation score for an Internet Protocol address and does not do anything with this supposed intelligence. This may have been its downfall. Try to include claim features that cannot be done by a human.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018006696
Art Unit, Examiner:	Art Unit 2439, Examiner James J. Wilcox
Citations:	[1] Ex Parte Bingham, p. 9. [2] 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50, 52 (Jan. 7, 2019) [3] Ex Parte Bingham, p. 12. [4] Ex Parte Bingham, p. 13. [5] See McRO, Inc. v. Bandai Namco Games America Inc., 837 F.3d 1299 (Fed. Cir. 2016). [6] See Revised Guidance, 84 Fed. Reg. at 56.
Panelists:	Chen, Beamer (Author), Craig

PTAB - Ex Parte Geral Boldt, et al. (Proceeding # 2018002278)

Overview:	In this appeal of US Pat. App. No. 15/001665 from a rejection, the Examiner indicated that the claim was directed to the abstract idea of sales and marketing behavior by determining sponsors for the purpose of generating revenue. The Board disagreed, focusing on the technical aspects of the claim and considering the claim as a whole. Decided February 28, 2020.
Discussion:	The invention related to PDF print jobs and dynamically splitting such print jobs into independent segments to facilitate printing of large PDF files. The examiner found the claim directed to an computer algorithm/mathematical formula for dividing data into various segments applying predetermined rules, constituting a mental process or method of organizing human activity and that all was conventional. The Board disagreed. The guidelines were published after the briefs were filed, and the guidelines were applied by the Board. The Board found that the claim was not directed to an abstract idea, citing the hardware elements and that the formula was integrated into a practical application. [1]
Representative claim:	1. A system comprising: a print server comprising: an interface configured to receive a Portable Document Format (PDF) print job comprising logical pages; and a job controller configured to divide the PDF print job into segments by: determining a memory footprint indicative of an expected size of each of the logical pages, based on a determined size of at least two of the logical pages; determining a segment size comprising a number of the logical pages to include in each segment based on the memory footprint for the logical pages, generating multiple segments, populating each of the segments with logical pages from the PDF print job based on the segment size, and populating each of the segments with a PDF page tree; wherein the job controller is configured to transmit the segments to an assigned printer for processing.
Practice tips and takeaways:	Just another example of using technology to solve a technical problem. The application set forth the technical problem and technical solution very clearly. This is also an example of how the guidelines are very helpful in overcoming rejections in the PTO.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018002278
Art Unit, Examiner:	2674, Zhang
Citations:	[1] Boldt, 2018-002278 at 7 (PTAB February 28, 2020).
Panelists:	Huges, McCartney, and Bain (author)

Ex Parte Buijs et al. (Proceeding #2018007313)

Overview:
Applicant appealed from a 101 rejection of claims 29-38 of US Patent App. No. 13/932,059. The Board reversed the Examiner's rejection of all appealed claims, finding, under step 2 of the Alice/Mayo test for "Inventive Concept", that (i) the Examiner did not provide a properly factual basis for determining that the additional claim element is well-understood, routine, and conventional; and (ii) the appealed claims "recite limitations that amount ot significantly more than the abstract idea itself". [1]

Technology: The claims are directed to "a system and method for determining threshold values or a range of values for a test used to assess the current condition of the patient, the threshold values or range of values being used to allocate patients to an appropriate intensity level of treatment for the current status of the disease for the patient." [2]

Discussion:
In arriving at its decision in this case, the PTAB followed the USPTO 2019 Revised Guidance to analyze and decide that this claim is not directed to an abstract idea, despite the fact that the appeal briefs were filed before the USPTO published its 2019 Revised Guidance. [3]

PTAB agreed with the Examiner that (under Step 1 of Alice/Mayo and Step 2A, Prong One of USPTO Revised Guidance) the claims are directed to an abstract idea because they include limitations reciting "mathematical concepts...as well as, the abstract idea of organizing human activity in managing personal behavior and managing interactions between people, as well as, the abstract idea of employing mental processes to observe, evaluate and render a judgment/opinion." [4]

Under Step 2B, Prong Two, the Appellants' provide good arguments in reference to Fed Circuit and Supreme Court cases like Thales, Enfish and McRo, that even if the claims were deemed to involve an abstract or generic convention compoment, they were still found to be patent-eligible under step 1 of Alice (i.e., presumably directed to a practical application). But the PTAB disagreed; stating that "we observe no additional element (or combination of elements) recited in Appellants' representative claim...that integrates the judicial exception into a practical application." [5]

Still, when evaluating Alice/Mayo step 2 and Step 2B of the USPTO Revised Guidance, the PTAB found that "the Examiner's conclusion that the additional claim element is well-understood, routine, and conventional is not properly based upon a factual determination as specified in the [USPTO's] Berkheimer Memorandum, Section III (A)(1), which states that '[a] finding that an element is wellunderstood, routine, or conventional cannot be based only on the fact that the specification is silent with respect to describing such element.'" [6]

Representative claim: 29. A system for facilitating computer-assisted determination of test result thresholds to assign a patient to a particular level of treatment for a clinical condition, the system comprising:
 one or more hardware processors programmed with computer program instructions which, when executed, cause the one or more hardware processors to:
 obtain a request for a recommended treatment level for a patient having a clinical condition, the recommended treatment level request including test result values associated with the patient;
 obtain historical information associated with patients having the clinical condition, the historical information including (i) test result values associated with the patients, (ii) information on treatment levels provided to the patients for the clinical condition, (iii) information on health outcomes of the patients with regard to the clinical condition, the health outcome being measured in terms of one or both of mortality rate or perceived

quality of life, and (iv) information on costs associated with providing each of the treatment levels to the patients;

determine a number of available treatment levels for the clinical condition based on the historical information, the number of available treatment levels specifying how many levels of treatment for the clinical condition are available to be assigned to a given patient;

determine one or more result value thresholds to be used for assigning a given patient to a particular level of treatment for the clinical condition by:

responsive to the determined number of available treatment levels being a first number of treatment levels, define a first set of differential equations for determining the one or more result value thresholds, the first set of differential equations configured to assess net health benefits for a first number of candidate sets of result value thresholds to determine the one or more result value thresholds;

responsive to the determined number of available treatment levels being a second number of treatment levels greater than the first number of treatment levels, (i) define a second set of differential equations and (ii) solve the second set of differential equations via a Levenberg-Marquardt algorithm for determining the one or more result value thresholds, the second set of differential equations configured to assess net health benefits for a second number of candidate sets of result value thresholds to determine the one or more result value thresholds, the second number of candidate sets of result value thresholds being different from the first number of candidate sets of result value thresholds, a number of differential equations in the first set of differential equations being different from a number of differential equations in the second set of differential equations; and

use the selected set of differential equations to generate the recommended treatment level for the patient based on the test result values associated with the patient and the one or more result value thresholds. [7]

Practice tips and takeaways:	Without being specific as to what "additional element" recited in the appealed claim and described in the specification "amount to significantly more than the abastract idea itself" to meet the criteria for "technical concept" under Alice/Mayo step 2, the PTAB implied that the Examiner did not find any statements in the specification to support that the limitations for the patient information database and processor identified functional limitations were

"routine" or "conventional". Thus, it may be beneficial not to identify certain structures or claim elements in your specification as conventional unless you emphasize the technical improvement over the conventional structure or elements.

In particular, while the Appellant in this case made strong arguments as to why the claimed invention made an improvement in the field, similar to what the Federal Circuit found eligible subject matter in McRO, the PTAB found that the "Background section of the McRO '576 patent includes a description of the admitted prior art method and the shortcomings associated with that prior method" but that "[t]here is no comparable discussion in Appellants' Specification or elsewhere of record." [8]

Thus, even though technical limitations in a claim (including A.I. model type limitations) may provide a technical concept to overcome a determination that the claims are directed to an abstract idea (such as a mathematical concept), it is best to clearly identify in your specification as to how such technical limitations are an improvement over what may be deemed "routine" or "conventional" structures or limitations.

Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018007313
Art Unit, Examiner:	3626, Jason S. Tiedeman
Citations:	[1] Ex parte Buijs et al., 2018-007313 at 1 and 14-16 (PTAB August 20, 2019). [2] Id. at 2. [3] Id. at 4-5. [4] Id. at 7-8. [5] Id. at 13. [6] Id. at 14-15. [7] Id. at 9-10. [8] Id. at 12.
Panelists:	Whitehead Jr. (author), Stephens, Bennett

PTAB - Ex Parte Bulleit and Stanley K. Yeatts (Proceeding # 2018005562)

Overview: In this appeal of US Pat. App. No. 13/570420 from a rejection, the Examiner indicated that the claim was directed to the abstract idea of sales and marketing behavior by determining sponsors for the purpose of generating revenue. The Board disagreed, focusing on the technical aspects of the claim and considering the claim as a whole. The Board also added a 112 rejection. Decided: March 9, 2020

Discussion: This is a good example of adding technology to change the characterization of the claims from a fundamental economic practice of sales and marketing to an improvement to computer functionality with regard to a proactive search engine. The Board focused on the non-conventional use of a proactive search engine[i], ignoring many of the elements that are typically associated with a business method, such as "links to a   plurality of sponsored websites"[2] and navigating to the sponsored websites. Here's a representative quote from the decision supporting the conclusion that the claims were not directed to an abstract idea: "In this case, it is the characterization the Appellant has put forward, supra, which is the more accurate characterization. In our view, the claim as a whole reflects a specific asserted improvement in technology, rooted in computer technology, over that which was available in the prior art. Accordingly, we find the Appellant's arguments that the claimed subject matter is not directed to sales and marketing but a technical improvement persuasive, given the present record. It should be noted that we have addressed purported specific asserted improvements in technology under step one of the Alice framework. Additionally, we determine that there is an integration into a practical application."[3]

Representative claim:	1. A network communication method comprising: [(a)] switching from a standard quality of service Internet connection to a higher, relative to the standard quality of service, quality of service Internet connection, in response to user selection of the higher quality of service Internet connection via a persistent browser interface, at a user device, that persists as the user device navigates the Internet to a plurality of Web pages; [(b)] displaying on the user device a series of links to a plurality of sponsored Web sites of a plurality of sponsors that subsidize the higher quality of service Internet connection in the persistent browser interface at the user device as the user device navigates the Internet to the plurality of Web pages and that supercede indicia of sponsorship that are associated with the plurality of Web pages, in response to the user selection of the higher quality of service Internet connection at the user device, the series of links being provided to the user device by a proactive search engine that is configured to search the Web independent of user key word input as the user device navigates the Internet to the plurality of Web pages; and [(c)] linking the user device to one of the sponsored Web sites of one of the plurality of sponsors of the higher quality of service Internet connection in response to user selection of a corresponding link at the user device, wherein a plurality of Internet connection options are displayed in the persistent browser interface at the user device as the user device navigates the Internet to the plurality of Web pages, and wherein the plurality of Internet connection options displayed in the persistent browser interface comprises: a first option that selects the standard quality of service Internet connection; and a second option that selects the higher quality of service Internet connection.
Practice tips and takeaways:	Add technology to your business method in order to have a chance to get it allowed. Use unconventional names, such a "proactive search engine" to make it harder to assert that the elements are conventional.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018005562
Art Unit, Examiner:	3681, Sorkowitz
Citations:	[1] Bulleit, 2018-005562 at 8 (PTAB March 9, 2020). [2] Id. [3] Id. at 9.
Panelists:	Lorin, Fetting, and Astorino (author)

Ex Parte Bush (Proceeding #2018005583)

Applicant Appeal - March 10, 2020

Overview:

Applicant appealed from a 101 rejection of claims 1, 3-9 and 11-14 of US Patent App. No. 13/792,995. The Board reversed the Examiner's rejection of claims 1, 3-7 and 14 finding that the claim limitations (that the Examiner ruled were merely collecting, analyzing, and displaying the results) integrates the otherwise abstract mental process into a practical application for method of customizing names of insulin delivery profiles for improved patient safety. The Board affirmed the Examiner's rejection of claims 8, 9 and 11-13 because these claims are directed to a computer readable medium, which broadly recites a signal and as such is not one of the four categories of patent-eligible subject matter under 35 U.S.C.§ 101.

Technology: The claims are directed to insulin pump configuration software and, more particularly, to customizing names of insulin delivery profiles using the pump configuration software. [1]

Discussion:

Under Step 2A, prong 1 of the Mayo/Alice test as augmented by the USPTO 2019 Revised Patent Subject Matter Eligibility Guidance (the "USPTO 2019 SME Guidance"), the Board found that the claims are directed to an abstract process because "[e]ach of the independent claims recite limitations directed to receiving a string of characters and prompting a user to enter a change to a string of characters (data gathering or observation steps), and comparing normalize characters with names of profiles (data analysis or evaluation steps) may be a "mental process" steps. [2]

However, under Step 2A, prong 2, the Board found that several of the claim limitations integrates the abstract mental process into a practical application. In particular, the Board stated that the claims "recite limitations directed to downloading a pump configuration file to the insulin pump and delivering insulin by the insulin pump in accordance with a parameter selected from the downloaded pump configuration file", which integrate the otherwise abstract claim into a practical application that is "an improvement to the operation of the insulin pump (an improvement to a technology)..." [3]

Since the Board found that the claims are subject matter eligible under Step 2A, prong 2, the Board did not reach the question of whether the claims "provide an inventive concept" under step 2B of the Mayo/Alice test.   But likely that analysis would have been substantially the same as finding the claims are directed to a "practical application" under Step 2A, prong 2.

The Board affirmed the Examiner's rejection of claims 8, 9 and 11-13, not because they are directed to an abstract idea under the A*lice* test, but because these claims are directed to a computer readable medium that broadly covers a propagation signal that is not one of the four categories of patent-eligible subject matter under 35 U.S.C.§ 101. The Board further confirmed that the Appellant's Specification did not preclude a propagation signal from the definition computer readable medium covered by claims 8, 9 and 11-13. [4]

1. A computer-implemented method for customizing names
of insulin delivery profiles for improved patient safety,
comprising:
receiving, by a configuration device, a string of characters to serve as a name for a given insulin delivery profile, where the insulin delivery profile includes at least one parameter pertaining to insulin delivery by an insulin pump and is one of a plurality of insulin delivery profiles associated with a given patient;

normalizing, by the configuration device, the string of characters by changing one or more

of the characters in the string of characters in accordance with a rule set;
comparing, by the configuration device, the normalized string of characters with names for each of the plurality of insulin delivery profiles;

prompting, by the configuration device, a user to change the normalized string of characters by displaying a message on the display of the configuration device, the prompting being performed in response to a match between the normalized string of characters and at least one of the names of the plurality of insulin delivery profiles;

updating, by the configuration device, the name of the given insulin delivery profile in a pump configuration file residing on the configuration device with the normalized string of characters, wherein the name of the given insulin delivery profile differs from name of the pump configuration file and updating occurs when the normalized string of characters is unique in relation to the names of the plurality of insulin delivery profiles and in response to the comparison step, the steps of normalizing, comparing, prompting and updating being performed solely by computer executable instructions being executed by a computer processor in the configuration device;

downloading the pump configuration file from the configuration device to an insulin pump; and

delivering insulin, by the insulin pump, to the given patient in accordance with a parameter from a selected one of the plurality of insulin delivery profiles in the pump configuration file. [5]

Practice tips and takeaways:	For patent practitioners, this PTAB decision provides further guidance on providing "specific features" in your patent claims that transform the claims from an ineligible abstract mental process of "collecting data, analyzing the data, and displaying results of the data" (i.e., in accordance with the Federal Circuit decision in *Electrical Power Group*) under Alice test step 2A prong 1 to an eligible "practical application" under Alice step 2A prong 2 . Patent practitioners should also include support in their Specification for each of their "specific features" individually or in combination as being an "improvement to a technology", which is what the PTAB in Ex parte Bush found was the basis for reversing the Examiner's § 101 rejection and finding that such "specific features" (i.e., the recited limitations of "downloading the pump configuration files and using them to deliver insulin") are not "insignificant post-solution activity" but an improvement to the operation of an insulin pump.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018005583
Art Unit, Examiner:	3626, Robert W. Morgan
Citations:	[1] Ex parte Bush, 2018-005583 at 2 (PTAB March 10, 2020). [2] Id. at 9-10. [3] Id. [4] Id. at 8-9. [5] Id. at 2.
Panelists:	Nappi (author), Droesch, Repko

Ex Parte Bushmitch et al. (Proceeding #2018008667)

Overview: Applicant Appeal - March 12, 2020

Applicant appealed from a 101 rejection of claims 10, 11, 16-18 and 22 of US Patent App. No. 14/499,297. The Board reversed the Examiner's rejection of all appealed claims, finding that the claim limitation steps for for training, deploying and predicting (that the Examiner ruled were merely collecting, analyzing, and/or organizing and manipulating information through mathematical correlations similar to Fed. Circuit decision in *Elec. Power Grp*) are not directed to an abstract idea since the claims do not fall within the mathematical concepts category of the US PTO's guidelines or within the other two categories of organizing human activity and mental processes, and "the claimed invention achieves a technical improvement by using the collected information to train and deploy an adaptive learning system that makes 'actual opeartion effectiveness". [1]

Technology: The claims are directed to a computer-implemented method directed to "an adaptive learning system that 'can be trained by correlation between a first set of raw technical performance data and a set of actual operational effectiveness assessment data. ...Once trained, the adaptive learning system can be deployed,' and, while deployed, 'the adaptive learning system can produce a set of predicted operational effectiveness assessment data from a second set of raw technical performance data". [2]

Discussion: Claim 22 was the only pending independent claim on appeal.   The Board followed USPTO 2019 Revised Guidance to analyze and decide that this claim is not directed to an abstract idea. [3]

The Examiner determined that the claims on appeal recite subject matter 'similar to the collecting information, analyzing it, and displaying certain results of the collection and analysis . . . and/or organizing and manipulating information through mathematical correlations' limitations of the claims found to be unpatentable by the Federal Circuit in *Elec. Power Grp* . [4]

The Board disagreed, finding that "[a]lthough the subject matter recited by claim 22 includes collecting and analyzing data, as indicated by the Examiner," the recited training, deploying, and predicting limitation steps in the claims do not fall within the category of "mathematical concepts"any of the abstract idea categories of the USPTO 2019 Revised Guidance.   Citing USPTO 2019 Revised Guidance, the Board stated that "a claim does not fall within the the contrary not fall within the mathematical concepts grouping "if it is only based on or involves a mathematical concept," but "the mathematical concept itself is not recited in the claim."   The Board then found that, "because the claims here do not recite (1) a relationship between variables or numbers, (2) a numerical formula or equation, or (3) a mathematical calculation, they do not fall within the mathematical concepts grouping. [5]

The Board differentiates these claims from "merely collecting and analyzing information" under Elec. Power Grp to find that the claims "achieves a technical improvement by using

the collected information to train and deploy an adaptive learning system that makes 'actual operation effectiveness.'" [6]

Even though the Board found the claims are not abstract at prong 2a (i.e.., not a mathematical relationship, organizing human behavior, or mental process), the Board also evaluated the claims under prong 2b for having limitations that integrate any recited abstract idea into a practical application of that abstract idea. The Board found that "the additional limitations of training, deploying, and predicting limitations integrate the abstract idea of collecting data into a practical application." [7].

Because the Board found that the claims are not directed to an abstract idea under the USPTO 2019 Revised Guidance, the Board stated that "we need not address whether any additional recited elements add significantly more to the abstract idea to provide an inventive concept under Alice/Mayo step two." [8]

It would be interesting to see how the Fed Circuit would reach the same conclusion.

Representative claim: 1. A computer-implemented method, comprising:
accessing a set of raw technical performance data;

accessing a set of actual operational effectiveness data;

training an adaptive learning system based on a relationship between at least part of the set of raw technical performance data and the set of actual operational effectiveness data; and

deploying the adaptive learning system once trained;

further training the adaptive learning system while the adaptive learning system is deployed;

collecting a set of actual technical performance data; and

making an actual operation effectiveness prediction

through use of the set of actual technical performance
data by way of the adaptive learning system while the
adaptive learning system is deployed,

where the adaptive learning system is a deep learning
system that employs at least five layers,
where the set of raw technical performance data is from
an initial duration of a test and evaluation event,

where the set of actual technical performance data is
from a remaining duration of the test and evaluation
event,

where the adaptive learning system, when online, is
configured to predict a set of predicted operational
assessment data based, at least in part, on the set of raw
technical performance data and

where the adaptive learning system trained while the
adaptive learning system is online. [9]

Practice tips and takeaways:	For patent practitioners, this PTAB decision provides further guidance on providing specific features for an AI based invention (such as an "Adaptive Learning System") in your patent claims that avoid having the claims being deemed an ineligible abstract mathmatical concept, method of organizing human activity or mental process of "collecting data, analyzing the data, and displaying results of the data" (i.e., in accordance with the Federal Circuit decision in *Electrical Power Group*) under the *Alice/Mayo* test. The rejected claims of this patent application on appeal were ultimately allowed and issued as US10733525. Patent practitioners may use this PTAB decision in combination with this issued patent for guidance on the level of disclosue to include in their own patent specification and figures for each of their "specific features for an AI based invention" individually or in combination as being an "improvement to a technology" as well as the corresponding details to include in related claims.
	In particular, referencing support from the patent specification, the Board in this case stated that "even assuming the collecting data limitations constitute an abstract idea, the additional limitations of training, deploying, and predicting limitations integrate the abstract idea of collecting data into a practical application [under the USPTO 2019 Guidelines]", because "these limitations recite functions that use a "deep learning system" with "at least five layers" to train the computerized adaptive learning system. These functions are used to make 'successful prediction of operational performance factors of complex systems' and 'greatly reduce event evaluation costs, by eliminating human evaluators for the entire event duration' , which achieve an improved technological result, namely operation effectiveness prediction. The Board further found that these method claim "functions apply the collected data in a meaningful way, such that it is more than a drafting effort designed to monopolize the abstract idea of collecting data and is beyond generally linking the use of the abstract idea of collecting data to a particular technological environment." [10]
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018008667
Art Unit, Examiner:	2124, Li Wu Chang
Citations:	[1] Ex parte Bushmitch et al., 2018-008667 at 1-2 (PTAB March 12, 2020).

[2] Id. at 3, 6-8, citing Abstract of US Patent App. No. 14/499,297.

[3] Id. at 2.

[4] Id. at 4 (quotng Examiner's Final Rejection pg 2-3 that cites Fed Circuit's opinion in *Elec. Power Grp.*)

[5] Id. at 7.

[6] Id. at 8.

[7] Id. at 9-10.

[8] Id. at 10.

[9] Id. at 3.

Panelists: Bisk (author), Hume, Dirba

Ex Parte Campbell (Proceeding #2019001768)

Overview:	Applicant appealed Final Office Action rejection of claims 1-20 of Application No. 15/097,704 directed to filling out forms in advance based on known information under 35 U.S.C. 101 as directed to patent-ineligible subject matter.
	PTAB Holding: The PTAB affirmed in part the Examiner's 101 rejection. Claims 1-7 were held to be ineligible while claims 8-20 were held to be eligible. For the eligible claims, the PTAB found that the claims integrated the abstract idea of a mental process into a practical application with the additional limitation that the computing device would enter data into a form. [1]
	Technology: The claims are directed to a computer program configured to fill out forms in advance based on known information.
Discussion:	For claims 8-20, the PTAB reversed the Examiner's rejection at step 2A, Prong 2, finding that the additional limitation of causing a computer program to enter data into a form to be sufficient to integrate the abstract idea of a mental process into a practical application. The PTAB considered this to be the technological improvement as described in the specification. Therefore, not including this limitation (as seen in claims 1-7) could not overcome the claims being directed to an abstract idea. There was also a 103 rejection that was reversed and a new ground of rejection under 102, but these did not affect the 101 analysis.
Representative claim:	1. A non-transitory computer-readable medium embodying a program that, when executed by at least one computing device, causes the at least one computing device to at least: receive a plurality of standardized data items from a network service corresponding to a data provider, the plurality of standardized data items corresponding to standardized data types promulgated by a metadata central authority;
	determine that a network page including a web form has been requested by a data consumer, the web form requesting a plurality of requested data items;
	receive metadata from a network data service, the metadata including a mapping defining a correspondence between the plurality of requested data items requested and the plurality of standardized data items;
	generate a subset of the plurality of requested data items requested by the web form based at least in part on the metadata and the plurality of standardized data items; and
	execute a service call to the data consumer including the subset of the plurality of requested data items.
Practice tips and takeaways:	It is a good idea to include multiple independent claims and dependent claims in the appeal as backups in case the PTAB is not persuaded by the broader claim set but is okay with the narrower one.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019001768
Art Unit, Examiner:	2158, Ruiz
Citations:	[1] Ex parte Campbell, 2019-001738 (PTAB February 3, 2020).
Panelists:	Smith (author), Jefferson, and Hagy

Ex Parte Chari (Proceeding #2019000403)

Overview: Applicant Appeal

Applicant appealed Final Office Action rejection of claims 1-16 and 20 of Application No. 13/939,402 directed to systems and methods for automatically estimating computer asset sensitivity under 35 U.S.C. 101 as directed to patent-ineligible subject matter.

PTAB Holding: The PTAB reversed the Examiner's 101 rejection. The PTAB relied on the 2019 Revised Guidance on patent subject matter eligibility and found that: (1) the claims under their broadest reasonable interpretation were directed to an abstract idea under Step 2A, Prong One of the Revised Guidance; but (2) the abstract idea is integrated into a practical application under Step 2A, Prong Two.

Technology: The appealed claims are directed to a "system and method for automatically estimating computer asset sensitivity" including analysis of metadata about a given asset and training of a machine learning algorithm to predict the sensitivty level.[1]

Discussion: First, the Board determined that while the claim recited a "computer network," "processor," and "machine learning algorithm," the remainder of the claim under its broadest reasonable interpretation recited data gather steps (e.g., "obtain information about an asset") and the remainder of the steps analyzing that information and training a machine learning algorithm recited mental processes. [2] Each of the claimed computer elements, including the "machine learning algorithm," was held to be a generic computer component insufficient to obviate the finding that that claim recited an ineligible concept. [3] Therefore the Board concluded the claim recited an ineligible concept and proceeded to Step 2.

At Step 2A, the Board analyzed competing claims from the Examiner that analogized the claim to *Electric Power Group* and *Classen,* while the Applicant analogized the claim to *DDR Holdings* and *Core Wireless* . [4] The Board concluded that the claims were not comparable to those in *Electric Power Group* , because they did not just involve "straightforward information gathering and presentation" without any "particular asserted inventive technology" as was found in that case. [5] Instead, the Board found that "the disclosed solution to the problem of determining the security level of a computer asset without having to directly access that asset, by extracting meta-level features — user features, usage features, external content features — is a solution rooted in computer technology to solve a problem that does not exist in the absence of computer technology." [6] Such meta analysis "based on user features, usage features, and/or external content features increases the efficiency of the computer and avoids the possibility of compromising the security of the computer system" and thus improves the functioning of the computer itself. [7]

The Board also found that the disclosed "machine learning algorithm" that was trained on

data sufficiently "improve[s] computer capabilities or functionality" given specific recitations in the specification as to how the machine learning algorithm would be trained and operate to improve computer functionality. [8] Thus, "the recitation of a machine learning algorithm trained to learn the sensitivity level of an information technology asset based on meta-level features, without having to directly access the asset, serves to integrate the identified abstract idea into a practical application." [9] The Board therefore found the claims patent eligible and reversed the Examiner's rejection.

Representative claim:	1. A method for automatically estimating a sensitivity level of an information technology asset, comprising: obtaining information about an asset, the asset comprising a computer network and the obtaining the information comprises identifying Internet Protocol (IP) address from which the computer network is accessed, identifying a user associated with the IP address and determining user attributes of the user and entropy of user accesses of the computer network, the obtaining performed without having to access the asset such that privacy of the computer network is preserved; assigning characteristics to the asset based on the information comprising at least the user attributes and the entropy of user accesses to the asset comprising a computer network; comparing, by a processor, the characteristics of the asset with stored characteristics of known sensitive assets; and determining, by the processor, a sensitivity level of the asset based on the comparing, the sensitivity level determined without having to access the asset and privileged knowledge of the asset, the characteristics comprising features and wherein a machine learning algorithm is trained based on the features to predict the sensitivity level, the determining performed by executing the trained machine learning algorithm, wherein the features can be uniformly used for different asset types in training the machine learning algorithm to predict a sensitivity level for a respective different asset type, wherein the method identifies sensitivity levels for multiple assets respectively, the method facilitating computer security protection by automatically identifying a target asset among the multiple assets based on a corresponding determined sensitivity for providing security protection.
Practice tips and takeaways:	1) Recitation of a "machine learning algorithm" alone is insufficient to render a claim patent eligible. 2) Direct ties in the specification to computer-specific problems or analysis are helpful to overcome data analysis rejections. 3) Use the specification and claims to point specifically to how the machine learning algorithm or AI model will improve the functionality of the computer at hand.

Ex parte Chaudhuri (Proceeding # 2019005130)

Overview: US Patent App. No. 15/887,037, Filed February 2, 2018

Appealed 101 rejection. Rejection was affirmed.

Examiner found claim 1 to recite "[m]athematical concepts-mathematical formulas or equations, mathematical calculations." The Examiner found that the claim did not integrate the mathematical concept into a practical application or additional elements that amount to significantly more than the judicial exception. The PTAB agreed. [1]

Discussion: The Appellant tried to argue that claim 1 was not directed to mathematical relationships, mathematical formulas or equations, or mathematical calculations on their own per se. [2] However, the PTAB found that the disclosed and claimed classification of data is comparable to the patent-ineligble mathematical concept of interpolation. [3] The Appellant tried to argue that there was a practical application because "the claimed subject matter is directed to solving the problem of how to automatically compute a Gaussian bandwidth parameter value to achieve accurate outlier identification results for new observations much faster than previous computerized methods."[4] However, the PTAB disagreed because the claim was a mathematical technique in the abstract, not in its application to a particular problem. The Step 2B arguments were also unsuccessful.

Representative claim:	1. A non-transitory computer-readable medium having stored thereon computer-readable instructions that when executed by a computing device cause the computing device to: compute a mean pairwise distance value between a plurality of observation vectors, wherein each observation vector of the plurality of observation vectors includes a variable value for each variable of a plurality of variables, wherein the mean pairwise distance value is computed using

$$\overline{D}^2 = \frac{2N}{(N-1)} \sum_{j=1}^{p} \sigma_j^2,$$

where D is the mean pairwise distance value, N is a number of the plurality of observation vectors, p is a number of the plurality of variables, and σ_j^2 is a variance of each variable of the plurality of variables; compute a scaling factor value based on a number of the plurality of observation vectors and a predefined tolerance value; compute a Gaussian bandwidth parameter value using the computed mean pairwise distance value and the computed scaling factor value; compute an optimal value of an objective function that includes a Gaussian kernel function that uses the computed Gaussian bandwidth parameter value, wherein the objective function defines a support vector data description (SVDD) model using the plurality of observation vectors to define a set of support vectors and a set of Lagrange constants, wherein a Lagrange constant is defined for each support vector of the defined set of support vectors; output the computed Gaussian bandwidth parameter value, the defined set of support vectors, and the set of Lagrange constants; receive a new observation vector; compute a distance value using the defined set of support vectors, the defined set of Lagrange constants, and the received new observation vector; and when the computed distance value is greater than a computed threshold, identify the received new observation vector as an outlier.

Practice tips and takeaways:	Merely calling for a mathematical concept to be performed more efficiently or with a particular input does not amount to an application of the mathematical concept that is patent-eligible. [5]
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019005130

Art Unit,   2122, Eric Nilsson
Examiner:

Citations: [1] Ex Parte Chaudhuri, p. 5-14.
                 [2] Ex parte Chaudhuri, p. 5
                 [3] In re Gitlin, 775 F.App'x 689 (Fed. Cir. 2019).
                 [4] Ex parte Chaudhuri, p. 7
                 [5] In re Gitlin, 775. F. App'x at 691.

Panelists: Morgan (Author), Jurgovan, Schneider

Ex parte Chen(Proceeding # 2020003245)

Overview:

US Patent App. No. 14/404,328, Filed November 26, 2014

Appealed 101 rejection of claims 1-26. Rejection was reversed.

PTAB found that the Examiner erred in determining the claimed subject matter to be patent-ineligible as directed to a judicial exception without reciting significantly more. [1]

Discussion:

PTAB found that claim 1 recites a judicial exception in the form of a mathematical concept. [2] In particular, they found that at least "calculating a first curve misfit based, at least in part, on the obtained data and simulated first parameter" and "wherein optimizing a curve match comprises calculating a partial derivative of the curve misfit of the first parameter with respect to the second parameter of the selected flow model" are mathematical concepts. [3] However, the Appellant argued that the method provides a specific improvement over prior methods for analyzing formation tester data over prior linear regression methods and that the method is directed to improved systematic inversion methodology applied to formation testing data as noted in the specification. As made clear in the October 2019 Revised Guidance, the claim does not have to recite the improvement described in the specification. Thus, the PTAB found that the method in claim 1 improves a technology or a technical field. [4]

Representative claim:

1. A method of determining a parameter of a formation of interest at a desired location comprising:
directing a formation tester to the desired location in the formation of interest;
obtaining data from the desired location in the formation of interest, wherein the obtained data relates to a first parameter at the desired location of the formation of interest;
initializing an estimation of a second parameter at the desired location in the formation of interest to simulate the first parameter by using a selected flow model;
calculating a curve misfit based, at least in part, on the obtained data and simulated first parameter;
inverting the obtained data to update the second parameter, wherein inverting the obtained data comprises using a method selected from a group consisting of a deterministic approach, a probabilistic approach, and an evolutionary approach;
optimizing a curve match of the obtained data and the simulated first parameter, wherein optimizing the curve match comprises calculating a partial derivative of the curve misfit of the first parameter with respect to the second parameter of the selected flow model in deterministic and probabilistic approaches; and
optimizing one or more aspects of performance of one or more operations of the formation tester within a predetermined time based, at least in part, on one or more parameters of the optimized curve match.

Practice tips and takeaways:

As noted in this decision, a claim does not have recite an improvement to technology or technical field if it is described in the specification. When drafting a specification, focus on explaining the improvements to technology and/or a technical field.

Case link:	
Art Unit, Examiner:	2865, ALKAFAWI, EMAN A
Citations:	[1] Ex Parte Chen, p. 9. [2] Ex Parte Chen, p. 10. [3] Ex Parte Chen, p. 10. [4] [2] 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50, 55 (Jan. 7, 2019)
Panelists:	Robertson (Author), Wilson, Range

Ex Parte Codella et al. (Proceeding #2019003264)

Overview: Applicant Appeal - Decided August 31, 2020

Applicant appealed from a 101 rejection of claims 1-10 and 12-20 of US Patent App. No. 14/500,023. The Board affirmed the Examiner's rejection of all appealed claims, finding that the claim limitation are directed to an abstract "mathematical concepts" for generating synthetic data that do not recited any specific elements that integrate the abstract mathematical concepts into a practical application but "merely uses generic computer components to analyze data". [1]

Technology: This patent application, which is assigned to IBM, is titled "Category Oversampling for Imbalanced Machine Learning" and has method claims that are directed generally to "information technology, and more particularly, to machine learning technology." [2]

Discussion: Under Step 2A Prong 1 of the USPTO 2019 Revised Subject Matter Eligibilty Examination Guidance (the "2019 Guidance"), the PTAB agreed with the Examiner that appealed claims were "directed to a mathematical process for generating synthetic data" that is "basically an algorithm comprising a couple of math steps..." The PTAB points to sections of the patent application Specification to support that the claim limitations are nothing more than "mathematical relationships, mathematical formulas or equations, [and] mathematical calculations" that use "statistical models and 'yield[s] a broader distribution of new synthetic data points' by implementing algorithms." [3]

Under Step 2A Prong 2 of the 2019 Guidance, the Appellant argued that the claim limitations are directed to a practical application of a mathematical concept as the "claimed embodiments improve computerized methods for intelligently generating synthetic data points to balance class distribution in a given data set".   The PTAB disagreed and found that "there is 'no indication that the additional elements improve . . . technology' and the "Appellant has not shown that the alleged improvement to generating synthetic data points and balancing class distribution changes the manner in which the computer operates or changes the functionality of the computer itself." [4]

The PTAB contrasts the finding in this case to the Federal Circuit findings in McRO, where "the claims in McRO that recited a "process [that] automatically animated characters using particular information and techniques [with unconventional rules], which was an improvement over [the specific technology field of] manual 3-D animation techniques and, therefore, not abstract." [5]

Under the Alice/Mayo Step 2 and Step 2B of the 2019 Guidance for determining if the otherwise abstract claim has limitations directed to an inventive concept, the PTAB found

otherwise abstract claim has limitations directed to an inventive concept, the PTAB found the Specification supported that "the claimed computer components perform anything other than the well-understood, routine, and conventional function of manipulating data" and "the claims at issue do not require any nonconventional computer components, or even a "non-conventional and non-generic arrangement of known, conventional pieces," but merely call for performance of the method "on a set of generic computer components" that do not amount to an inventive concept. [6]

In response to Applicant's argument, the PTAB also clarified that step 2 under the Alice/Mayo test "is termed a search for an 'inventive concept,' [but] the analysis is not an evaluation of novelty or nonobviousness." In fact, as noted the Supreme Court's decision in Mayo, "a novel and nonobvious claim directed to a purely abstract idea is, nonetheless, patent ineligible." Accordingly, the PTAB concluded that "the combination of limitations in each independent claim [on appeal] does not supply an "inventive concept" that renders the claim "significantly more" than an abstract idea" to satisfy Alice/Mayo step 2. [7]

Representative claim: 1. A method comprising the following steps:

identifying an anchor data point in a given class of data points, wherein the given class of data points is underrepresented among multiple classes in a data set of multiple data points, wherein each of the multiple data points represents a vector;

determining a given number of data points in the given class that neighbor the anchor data point, wherein the given number comprises two or more;

applying a weight to (i) each of the given number of data points in the given class that neighbor the anchor data point to create a given number of weighted neighboring data points, and (ii) the anchor data point to create a weighted anchor data point, wherein said weight applied to the anchor data point is equal to the number of data points in the given class that neighbor the anchor data point;

performing a vector summation by summing the given number of weighted neighboring data points and the weighted anchor data point; and

generating a synthetic data point to be associated with the given class of data points, wherein the synthetic data point represents the result of said vector summation;

wherein the steps are carried out by at least one computing device. [8]

Practice tips and takeaways:

This PTAB decision provides further guidance on anticipating that claims for an AI based

invention may be identified as abstract under Alice/Mayo test step 1 and USPTO 2019 Guidance step 2A prong 1, such that the Applicant should include specific claim limitations that are directed to a specific application and an inventive concept to respectively satisfy USPTO 2019 Guidance step 2A prong 2 and Alice/Mayo step 2 (i.e., USPTO 2019 Guidance step 2B).

The claims of this IBM's patent application had elements that may be viewed as technical (such as "identifying an anchor data point in a given class of data points..."; "determining a given number of data points in the given class that neighbor the anchor data point.."; "performing a vector summation by summing the given number of weighted neighboring data points and the weighted anchor data point..."; and "generating a synthetic data point to be associated with the given class of data points..."), but these elements were not directed to a practical application such as directed to correcting "imbalanced data sets" by generating a synthetic data point for training an autonomous vehicle machine learning system to avoid obstacles or training a building automation machine learning system to more quickly identify a fault in an HVAC system of a particular building.

In short, patent practioners that need to prepare a patent application directed to a particular AI/machine learning technology should review this PTAB decision and associated patent application as published (i.e., US 2016/0092789) to determine what is an "insufficient disclosure" for supporting a practical application or inventive concept with claim limitations that are directed to "mathematical concepts" that fall short of being viewed individually or as a whole as a practical application of the mathematical concept or directed to an inventive concept.

Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019003264
Art Unit, Examiner:	2124, Li Wu Chang
Citations:	[1] Ex parte Codella et al., 2019-003264 at 1-2, 8 (PTAB August 31, 2020). [2] Id. at 2. [3] Id. at 6-7. [4] Id. at 7-8. [5] Id. at 9. [6] Id. at 11-12. [7] Id. at 12. [8] Id. at 2.
Panelists:	Szpondowski (author), Howard, Amundson

Ex Parte Eronen (Proceeding #2018008595)

Overview:
Applicant appealed Final Office Action rejection of claims 21-40 of Application No. 15/030,457 directed to displaying images on touch sensitive displays under 35 U.S.C. 101 as directed to patent-ineligible subject matter.

PTAB Holding: The PTAB reversed the Examiner's 101 rejection at step 2A, Prong 1. The PTAB found that the claims were directed to collecting displaying images on touch sensitive displays in a particular manner which did not fit into any of the three groupings identified as abstract ideas. [1]

Technology: The claims are directed to rendering visual representations of content items segments on a display apparatus.

Discussion:
The PTAB found that the claims were directed to collecting displaying images on touch sensitive displays in a particular manner which did not fit into any of the three groupings identified as abstract ideas. Therefore, the PTAB determined that the claims were directed to patent-eligible subject matter. The PTAB also concluded that the claims were obvious over a combination of two references, but that analysis did not seem to affect the 101 analysis.

Representative claim: 21. An apparatus, comprising:
at least one processor; and at least one memory including computer program code, the memory and the computer program code configured to, working with the processor, cause the apparatus to perform at least the following:
receive information associated with a content item;

designate a first bead apparatus to be associated with a first content item segment of the content item, the first content item segment being identified by a first content item segment identifier;

cause display of a visual representation of the first content item segment identifier by the first bead apparatus;

designate a second bead apparatus to be associated with a second content item segment of the content item, the second content item segment being identified by a second content item segment identifier;

cause display of a visual representation of the second content item segment identifier by the second bead apparatus;

detect, via one or more sensors of the second bead apparatus, information indicative of a selection input of the second bead apparatus; and

in response to detecting the information indicative of the selection input of the second bead apparatus, cause rendering of the second content item segment based, at least in part, on the selection input, wherein causation of rendering comprises causing information indicative of the second content item segment to be transmitted to a separate apparatus so as to cause to display on the separate apparatus the visual representation of the second content item segment identifier concurrent with presentation of the visual representation of the second content item segment identifier by the second bead apparatus.

Practice tips and takeaways:
Always worth making a brief argument that the claims do not fit into any of the three groupings considered abstract ideas as the PTAB may end up persuaded by this and avoiding the more difficult arguments related to whether the abstract idea is integrated into a practical application or contains a limitation that is not routine or conventional.

Ex Parte Fautz (Proceeding #2019000106)

Overview: Applicant Appeal – Decided May 15, 2019

Applicant appealed Final Office Action rejection of claims 1-9 of Application No. 14/326,661 directed to magnetic resonance (MR) tomography apparatus under 35 U.S.C. 101 as directed to patent-ineligible subject matter.

PTAB Holding: The PTAB reversed the Examiner's 101 rejection. The PTAB relied on the 2019 Revised Guidance on patent subject matter eligibility and found that the claims were not "directed to" an abstract idea under Prong Two, Step 2A of the Guidance.

Technology: The appealed claims are directed to "a magnetic resonance (MR) tomography apparatus" configured to acquire data from RF coils, reduce the signal-to-noise ratio from the reception coils, and reconstruct image data of an examination subject on that basis. [1]

Discussion: The PTAB found that the claims recited three mathematical concepts used by the processor to establish reception-sensitivity profiles, determine Fourier-transformed signals, sum corrected signals for image reconstruction. The claims thus recited an abstract idea under Prong One of the Guidance. [2]

The PTAB next found that the "additional elements" of the claims "reflect an improvement to a technology, and thus the independent claims integrate the mathematical concept into a practical application." [3] The PTAB relied on Thales Visionix, Inc. v. United States [4] in finding that the "independent claims solve a technical problem" and the "MR tomography device in the claimed solution is neither a token addition nor an abstract concept." [5] "Appellant is concerned with solving the technical problem of improving sensitivity correction in MR tomography devices" and "overcomes the limitations of existing approaches." [6]

The PTAB found that the claimed mathematical calculations are a consequence of the arrangement of the "device's coils and how they receive signals during the scan" and are "the claimed invention uses the recited mathematical equations to improve the imaging system." [7] On this basis, the PTAB found that the claims were not "directed to" an abstract idea and reversed the rejection and therefore did not analyze the claims under the "inventive concept" analysis under the Guidance. [8]

Representative   8. A magnetic resonance (MR) tomography apparatus comprising:

an MR data acquisition unit comprising a radio frequency (RF) transmission system comprising a number n of single RF coils Ei with which reception signals t are respectively acquired, with i = 1, ... , n;

a processor provided with or configured to determine, for each single coil Ei, an individual reception sensitivity profile in the spatial domain r Bli(r): B1i (r) = |ai (r)| * ei·ϕi (r) with amplitude ai (r) and phase ϕi (r);

said processor being configured to operate the MR tomography apparatus to scan an examination subject introduced into the MR tomography apparatus to acquire reception signals Ii(k) in the frequency domain with wave number k via the n reception coils Ei;

said processor being configured to determine Fourier-transformed signals IFi (r) from the reception signals Ii (k), wherein:

IFi (r) = p(r) · e i·ϕi (r)· Bli (r) + N with N:= noise term, p(r) i·ϕi (r):= proton density;

said processor being configured to determine complexly corrected signals IFi (r) on the basis of the signals IFi (r) and the individual reception sensitivity profiles Bli (r);

said processor being configured to determine a sum signal MR(r) via complex addition of the corrected signals lFi(r): MR(r) = Σ lFi (r); and

said processor being configured to reconstruct image data of the examination subject on the basis of the sum signal MR(r), and to make the image data available at an output of the processor as an electronic data file.

Practice tips and takeaways:	1) When drafting claims using or reciting mathematical concepts or equations, ensure the claims make clear how those concepts are integrated into a device or other practical application and used to improve that device or otherwise solve a problem in the field. 2) Avoid bare recitations of mathematical concepts without tying them to systems or specific implementations.
Case link:	https://www.uspto.gov/sites/default/files/documents/Ex%20Parte%20Fautz.pdf
Art Unit, Examiner:	2865, Michael J Dalbo
Citations:	[1] Fautz, 2019-000106 at 2 (PTAB May 15, 2019). [2] Id at 7. [3] Id at 8. [4] Thales Visionix, Inc. v. United States, 850 F.3d 1343, 1349 (Fed. Cir. 2017), cited in MPEP 2106.05(a)(II)(vii). [5] Fautz at 9. [6] Id at 10. [7] Id at 11. [8] Id.
Panelists:	Haapala, MacDonald, Repko (author)

Ex parte Forbes (Proceeding # 2018007459)

Overview: US Patent App. No. 11/771,483, Filed June 29, 2007.

Appealed 101 rejection of claims 1-13, 15, and 25-29. Rejection was reversed.

PTAB found that under the 2019 Revised Guidance that the Appellant raised a dispositive issue with respect to the Examiner's determinations under Step 2B. [1]

Discussion: The Appellant argued that each of the independent claims recites an additional limitation beyond the abstract idea which "adds a specific limitation other than what is well-understood routine, conventional activity in the field or unconventional steps that confine the claim to a particular useful application." [2] In particular, the Appellant argued that each of the independent claims recites limiations which require identifying a word and then identifying an additional word in the segment of text that precedes the word. The specification described this as "backward sampling." The Examiner found "that the Supreme Court and Federal Circuit Court have recognized that receiving, processing and storing data, matching information (e.g. comparison of data), and receiving or transmitting data over a network, e.g. using the Internet to gather data are computer functions that are well understood, routine, and conventional functions..." and that backward sampling recited in the claims "is what humans routinely do in the mind to determine the context of words." [3] The PTAB found that the Examiner's rejection and Answer did not provide a sufficiently pursuasive citation as required by the Berkheimer Memorandum to support the Examiner's determination that the additional elements are well-understood, routine, and conventional because the Examiner did not cite an express statement in the specification, a court decision, or a publication supporting its determination. [4] The PTAB also indicated that the cases cited were not sufficiently pursuasive to demonstrate that the specific type of data analysis recited in the claims - backward sampling - is well understood, routine, or conventional. [5]

Representative claim:	1. A computer-implemented method for processing audio data, the computer-implemented method comprising: receiving, by a recognition module in a server, an audio conversation from a client device; converting, by the recognition module, the audio conversation into text that is representative of the audio conversation; sampling, by the recognition module, the text for a word; buffering, by the recognition module, at least a portion of the text during the sampling; searching, by a content module in the server, in a database for a piece of content that is associated with the word, the searching including a backward sampling, wherein the backward sampling comprises: identifying the word in the portion of the text, the word occurring at a first frequency that is less than a second frequency associated with a plurality of other words in conversations; and at least partly in response to identifying the word, looking for a relevant word in a segment of the portion of the text, wherein the segment of the portion precedes the word, and wherein detection of the relevant word in combination with the word triggers provisioning of the piece of content; and sending, by the content module, the provisioned piece of content to the client device.
Practice tips and takeaways:	If an Examiner makes an argument that additional elements are well-understood, routine, and conventional, be sure to analyze the argument to ensure that the Examiner provides support based on the Berkheimer Memorandum.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018007459
Art Unit, Examiner:	3621, POUNCIL, DARNELL A
Citations:	[1] Ex Parte Forbes, p. 6. [2] Ex Parte Forbes, p. 7. [3] Ex Parte Forbes, p. 7-8. [4] Ex Parte Forbes, p. 8. See also USPTO Memorandum of April 19, 2018, "Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (Berkheimer v. HP, Inc.)'' (Apr. 19, 2018), available at https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF [5] Ex Parte Forbes, p. 8. Electric Power Group, LLC v. Alstom, S.A., 830 F.3d 1350 (Fed. Cir. 2016) and Intellectual Ventures I LLC v. Capital One Bank (USA), 792 F.3d 1363 (Fed. Cir. 2015)
Panelists:	White, Howard (Author), Belisle

Ex Parte Hannun (Proceeding #2018003323)

Overview: Applicant Appeal – Designated Informative 12/11/19

Applicant appealed Final Office Action rejection of claims 11-20 of Application No. 14/735,002 directed to systems and methods for improving transcription of speech to text under 35 U.S.C. 101 as directed to patent-ineligible subject matter and 35 U.S.C. 103 as unpatentable over Sompolinsky (US 2011/0035215A1) and Talwar (US 2011/0282663A1).

PTAB Holding: The PTAB reversed the Examiner's 101 rejection. The PTAB relied on the 2019 Revised Guidance on patent subject matter eligibility and found that: (1) the claims did not recite an ineligible concept under Step 2A, Prong One of the Revised Guidance; (2) any alleged abstract idea is integrated into a practical application under Step 2A, Prong Two; and (3) the Examiner did not provide factual support for the conclusion that the claims do not contain significantly more than the ineligible concept under Step 2B. The PTAB also reversed the Examiner's 103 rejection based on differences between the prior art and the claims.

Technology: The appealed claims are directed to "a computer-implemented method for transcribing speech" including normalizing audio, generating jitter set of audio files, and decoding a transcription of the input audio using predicted character probabilities and a trained neural network.[1]

Discussion: The PTAB found that the claims did not recite a patent-ineligible concept. The PTAB disagreed with the Examiner that the claims recited a method of organizing human activity or mental process, because "the claims are directed to a specific implementation" including multiple computerized steps. [2] According to the PTAB these steps "cannot be performed mentally," do not organize human activity, and do not recite any fundamental economic practices or other prohibited concepts. [3] The PTAB next found that the disclosure in the Specification of a mathematical algorithm to obtain "predicted character probabilities" is not recited in the claims, and thus under the Guidance the claims do not recite a mathematical concept. [4]

The PTAB alternatively found that even if there were a mathematical concept in the claims present in the character probability generation, that judicial exception "is integrated into a practical application" under Step 2A, Prong Two. [5] The PTAB relied on the Applicant's assertion and the specification's recitation of "specific features that were specifically designed to achieve an improved technological result" including a trained neural network that "achieves higher performance than traditional methods." [6]

Finally, the PTAB found that the Examiner failed to sufficiently support a finding of no inventive concept under Step 2B. The PTAB relied on Berkheimer v. HP, Inc., in concluding that the Examiner's assertion of there being no "additional elements" in the claims lacked necessary factual support. [7] The PTAB therefore reversed the Examiner's Section 101 rejection.

Representative   11. A computer-implemented method for transcribing speech comprising:
receiving an input audio from a user;

normalizing the input audio to make a total power of the input audio consistent with a set of training samples used to train a trained neural network model;

generating a jitter set of audio files from the normalized input audio by translating the normalized input audio by one or more time values;

for each audio file from the jitter set of audio files, which includes the normalized input audio:
generating a set of spectrogram frames for each audio file;

inputting the audio file along with a context of spectrogram frames into a trained neural network;

obtaining predicted character probabilities outputs from the trained neural network; and

decoding a transcription of the input audio using the predicted character probabilities outputs from the trained neural network constrained by a language model that interprets a string of characters from the predicted character probabilities outputs as a word or words.

Practice tips and takeaways:	1) Identify "specific features" in your claims that support a "practical application" of what may be viewed as an abstract mental process, mathematical concept or organizing human activity.
	2) In your Specification, explain how the claimed features are an improvement over conventional, routine or traditional systems/methods in the industry. For example, the PTAB in this case cited the Specification for support the claimed method provided "higher performance than traditional methods on hard speech recognition tasks while also being much simpler."
	3) During prosecution, force Examiners to identify specific alleged ineligible concepts present in the claims under both prongs of Step 2A of the Guidance, to clarify and potentially resolve rejections and help with potential appeal.
	4) Relying on *Berkheimer* , Applicants can push back on rejections under Step 2B of the Guidance where unsupported by specific recited evidence.
Case link:	https://www.uspto.gov/sites/default/files/documents/Ex%20parte%20Hannun%202018-003323.pdf
Art Unit, Examiner:	2600, Sarpong
Citations:	[1] Hannun, 2018-003323 at 2-3 (PTAB Dec. 11, 2019). [2] Id. at 9-10. [3] Id. [4] Id. [5] Id. at 10-11. [6] Id. [7] Id at 11 (citing Berkheimer v. HP Inc., 881 F.3d 1360 (Fed. Cir. 2018).
Panelists:	Kumar, McKeown (author), Shiang

Ex Parte Hayward (Proceeeding #2019002424)

Overview: U.S. Patent Application Number 12/751,832, filed 3/31/2010. Appellant appeals rejection of Claims 1–35 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. [1]

Discussion: As set forth in the claims, after completing a transaction for the customer's purchase of a downloadable digital product, but before providing a receipt page comprising a link to the downloadable digital product, the customer is presented with one or more upsell pitch pages describing one or more additional upsell products. As described in the Specification, by providing the upsell after the initial product sale, "the upsell does not interfere with or otherwise jeopardize that initial sale." Spec. ¶ 5; see also Appeal Br. 12 (explaining the claims "include steps that provide an improved vendor upsell purchase flow for offering products to customers following an initial purchase of a product") (citing Spec. ¶ 1). In other words, the customer is a captive audience member for presentation of the upsell products. Accordingly, we conclude that the focus of the claims (i.e., the character of the claims as a whole) is more than merely providing upsells to a customer device. Instead, we conclude the claims are directed to improving the vendor upsell purchase flow for offering products to customers following an initial purchase of a downloadable product.

We find the court's reasoning in DDR applicable here. Similar to the claims at issue in DDR, the pending claims set forth a solution rooted in computer technology to address a business challenge particular to the Internet—namely, providing a technique within an e-commerce transaction to present upsell products to a customer as a requisite step for the customer to receive a purchased downloadable product. The recited steps of presenting the upsell products after the completion of a purchase transaction for a downloadable product, but prior to the downloadable product being available to the customer are not the routine and conventional sequence of events ordinarily taken in an e-commerce transaction. Accordingly, we conclude the claims are patent eligible under 35 U.S.C. § 101.

Representative claim:	1. A computer-implemented method of providing upsells to a customer device, the method executed by a computer and comprising:

receiving from the customer device a request for a pitch page of a downloadable digital product;

transmitting the pitch page to the customer device;

receiving an indication from the customer device to purchase the downloadable digital product;

responsive to the indication, transmitting an order form to the customer device;

receiving the order form comprising the customer's payment information;

completing a transaction for the customer's purchase of the downloadable digital product based on the payment information included in the order form;

responsive to completing the transaction, providing, by the computer, the customer device with one or more upsell pitch pages that describe one or more additional upsell products, each upsell pitch page including:

a mechanism for accepting to purchase an additional upsell product, advertised on the upsell pitch page, the mechanism for accepting to purchase the additional upsell product displayed in the upsell pitch page, and

a mechanism for declining to purchase the additional upsell product advertised on the upsell pitch page, the mechanism for declining to purchase the additional upsell product displayed in the upsell pitch page;

determining whether a selection of the mechanism accepting to purchase the additional upsell product displayed in at least one upsell pitch page, or a selection of the mechanism declining the additional upsell product displayed in at least one upsell pitch page is received from the customer device;

responsive to determining that a selection of the mechanism accepting the purchase of the additional upsell product displayed at least one upsell pitch page is received from the customer device, or a selection of the mechanism declining to purchase the additional upsell product displayed in at least one upsell pitch page has been received from the customer device is received from the customer device, providing a receipt page comprising a link to download the downloadable digital product; and

responsive to determining that a selection of the mechanism accepting to purchase the additional upsell product displayed at least one upsell pitch page is not received from the customer device, or a selection of the mechanism declining to purchase the additional upsell product displayed in at least one upsell pitch page is not received from the customer device, refraining from sending the receipt page comprising the link to download the downloadable digital product until at least one interaction with the one or more upsell pitch pages is received.

Practice tips and takeaways: Supplementing the specification with self-supporting statments that the invention is rooted in computer technology appears to be beneficial.

Case link:

Art Unit, Examiner: Art Unit: 3682; Examiner: OSMAN BILAL AHMED, AFAF

Citations: [1] Ex parte JOHN HAYWARD et al., Appeal 2019-002424 (PTAB Dec. 30, 2019)

Panelists: Before CATHERINE SHIANG, JASON J. CHUNG, and JAMES W. DEJMEK, Administrative Patent Judges.
DEJMEK, Administrative Patent Judge

Ex Parte Heinz-Werner Stiller (Proceeding #2019001999)

Overview: Applicant Appeal – Designated

Applicant appealed Final Office Action rejection of claims 11-20 of Application No. 14/279,015 directed to a system for managing workflow of a medical procedure by displaying a subset of clinical information based on a stage determination made by a medical device being used in the medical procedure. The claims were rejected under 35 U.S.C. 101 as directed to patent-ineligible subject matter. 112 and 103 rejections were also appealed.

PTAB Holding: The PTAB affirmed the Examiner's 101 rejection. The PTAB recited both the Mayo/Alice framework and the 2019 Revised Guidance on patent subject matter eligibility and found that: (1) the claims recited an abstract idea under the first step of the framework and step 2A, Prong One of the Revised Guidance as a method and system for displaying information and falling under the "methods of organizing human activity." The abstract idea was found not to be integrated into a practical application under Step 2A, Prong Two as not improving computer technology.

Technology: The appealed claims are directed to "a a method of displaying information."[1]

Discussion: The PTAB agreed with the Examiner that the claims recited a method of organizing human activity, because the claims recite broadly: "a method and systems for displaying information...which can be characterized as a certain method of organizing human activity" [2] This characterization may have been because of the emphasis in the application on the medical procedure being performed by a human. The decision states that it falls under the Revised Guidance as "managing personal behavior or relationships or interactions between people (including...following rules or instructions."[3]

The PTAB found that additional elements are described generically in the specification and Appellant has not directed "us to any indication, that the limitations recited in claim 1 invoke any assertedly inventive programming, require any specialized computer hardware or other inventive computer components, i.e., a particular machine, or that the claimed invention is implemented using other than generic computer components to perform generic computer functions."[4] citing DDR Holdings.[5]

Representative   1. A system for managing workflow of a medical procedure, the system comprising:

[a] a processor;
[b] a database storing clinical information;
[c] at least one display monitor able to display the clinical information;
[d] software executing on said processor for displaying a subset of the clinical information on said at least one display monitor; and
[e] at least one medical device, the at least one medical

[e] at least one medical device, the at least one medical
device used in the medical procedure, such that during the
medical procedure, the use of the at least one medical device at
least partially determines a stage of the medical procedure and
the subset of clinical information that is displayed on the at least
one display monitor, the subset of clinical information relevant
to the stage of the medical procedure;
[f] wherein the at least one medical device includes at least
one control, wherein the at least one control includes a user
interface that performs a different task during different stages of
a multi-stage medical procedure.

Practice tips and takeaways:	1) Do not focus the specification or claims on improvements to procedures being performed by humans. 2) Where a device provides information that changes an interface, describe in technical terms how that device provides the information and how that information is used to change operation of the computer to display different information. 3) Focus claims and spec on the operation of the devices, not on how that information helps a user perform a task. 4) During prosecution, ensure your description of the technical problem really is a technical problem, not a way to help a user keep track of an activity the user is performing.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019001999
Art Unit, Examiner:	3626, Koppikar
Citations:	[1] Heinz-Werner Stiller 2019001999 at 2-3 (PTAB Aug. 3, 2020). [2] Id. at 10. [3] Id. at 10-11 [4] Id. at 12 [5] DDR holdings, LLC v. Hotels.com, L.P., 773 F. 3d 1245, 1256 (Fed. Cir. 2014).
Panelists:	Hoffmann, Wieder, Meyers (author)

Ex Parte Henry (Proceeding #2019000362)

Overview:	Applicant appealed from a rejection of US Patent Application No. 15/383,603 claims based on 101. The Board reversed the Examiner because the claims are not directed to a mental process, but instead, "in the context of the claims we consider the limitations to recite an ordered combination of specfic rules and as such, are patent eligible."[1] Practical application and inventive concept was not discussed as the claims were not directed to an abstract idea. Technology: Searches are performed based on messages by first computing a semantic representation of the message via natural langauge processing, generating a context hash vector, selecting a resource having a similar hash vector, and transmitting information about the selected resource.
Discussion:	A good example of how to characterize interactions between users as computer executed steps at a sufficient level of detail to avoid it being characterized as too high a level of generality. "Here, as discussed above, each of the independent claims recites a step of computing a message embedding or semantic representation for each message, computing a context vector by processing the embedding or semantic repetitions, quantizing the vector to obtain a hash vector and using the hash vector to select a resource using the hash and a hash of the resources. Thus, the claim recites a specific ordered set of rules to perform on the received message. We find no evidence to demonstrate that steps of computing context vectors from the messages, computing hashes of the vectors, and using the hash with a hash of resources to select a resource is a non-computer method of finding resources related to a message that is merely implemented on a computer."[2] Basically, the board found that it is not something normally done in the human mind and was not recited in the claims at too high a level of generality. In other words, the steps performed by the computer were recited in sufficient detail.
Representative	9. A system for presenting information about a resource to a user, the system comprising: at least one server computer comprising at least one processor and at least one memory, the at least one server computer configured to: receive, a plurality of electronic messages during a session between a first computing device of a first user and a second computing device of a second user; compute, a semantic representation of each message of the plurality of electronic messages; compute, a first context vector by processing the semantic representations for the plurality of electronic messages; quantize, the first context vector to obtain a first context hash vector; select a first resource from a data store using the first context hash vector and a hash vector for the first resource, wherein the data store comprises a plurality of resources and each resource of the plurality of resources is associated with a hash vector; and transmit, during the session, information about the first resource to the first computing device.
Practice tips and takeaways:	(1) Describing the steps performed by the computer in accomplishing the high level functions goes far in avoiding eligibility problems. This claim includes computing a semantic representation of messages, which is done in the spec via natural langauge

processing by a computer. Humans don't use hash vectors nor compare hash vectors.

(2) The abstract describes messages exchanged between a customer service representative assisting a customer. The suggested resources may include text of a message to send to the customer. Based on this subject matter, the case could have easily gone the other way. However, expressing the claims in terms of technical computer functions saved the day.

Case link: https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019000362

Art Unit, Examiner: 2122, Michael Zidanic

Citations: [1] Shawn Henry 2019000362 (PTAB Nov. 21, 2019 at 7).
                       [2] Id.

Panelists: Nappi (Author), Hume, Mitchel

Ex Parte Hsu (Proceeding #2018007803)

Overview: Applicant Appeal – Decided September 26, 2019

Applicant appealed the rejection of claims 1, 5, 9, 10, 14, and 18-32 of Application No. 13/782,653 directed to a method of presenting search results under 35 U.S.C. 101 as directed to patent-ineligible subject matter and 35 U.S.C. 103 as unpatentable over Kraft, Dong, Inagaki, Riley, and Jockish.

PTAB Holding: The PTAB reversed the Examiner's 103 rejection for a failure to compare the art to the claims properly. The PTAB upheld the rejection of claims 1, 5, 10, 14, 19, and 21-32 under Section 101, but reversed the rejection of claims 9, 18, and 20 as patent-eligible for improving web-query technology.

Technology: The appealed claims are directed to "a method of presenting search results" using a processor to determine popular search results during different time periods, and to determine and order search results based on the time of day for a query. [1]

Discussion: The PTAB first found that the Examiner did not properly compare the prior art to the specific recited language of the claims, and therefore reversed all 103 obviousness rejections on that basis. [2]

The PTAB next reviewed the Examiner's rejection under Section, made first as an alternative ground in the Examiner's Answer. The PTAB specifically compared representative claim 1 to the categories of abstract ideas in the Revised Guidance and found that each matched a specified category in the Guidance, either mental processes, mathematical concepts, or insignificant data-gathering or extra-solution activity. [3] On this basis the PTAB determined that the claims recited judicial exceptions under Step 2A Prong One. [4]

The PTAB then proceeded to the practical application step in Prong Two. The PTAB addressed Applicant's argument that the time of day impacted the meaning of search terms and therefore provided more accurate search results, finding that the specification disclosed one basis and solution for disambiguating differently timed queries and providing more accurate results - based on Jaccard Distance and Kullback-Lieber divergence scores for those queries. [5] However, the PTAB found that only three dependent claims - 9, 18, and 20 - contained a recitation of those specific solutions. [6]

Based on this, the PTAB found that claims 9, 18, and 20 were a practical application in being directed to improving web search technology through the solution recited in the specification. [7] However, the PTAB found that the remaining claims that failed recite those specific limitations were not patent eligible as they just recited the abstract idea(s) instead of a practical application, and limitations not found in the claims may not be imported into them. [8]

Representative 1. A method of presenting search results in response to search query submitted by users and including a search term, the method comprising:

using a processor device performing steps of:

for respective search results that are identified by the search term, determining a popularity among users of the search result for respective time ranges within a day, wherein a first popularity of the search result for the search term during a first time range is higher than a second popularity of the search result during a second time range; and

responsive to receiving from a user a search query including the search term:

identifying a search results set comprising the search results that are identified by the search term;

identifying a time range of the day within which the user submitted the search query;

for respective search results of the search result set, identifying the popularity of the search result during the query time range of the day;

ordering the search results set according to the popularity of the respective search results during the selected time range of the day, wherein a first search result is presented before a second result having a lower popularity for the search term during the query time range of the day than the first search result; and

presenting the search results set to the user to fulfill the search query.

Practice tips and takeaways:	1) Frame inventions more generally as improving the functioning of a computer, as opposed to tying such improvement to specific implementations.
	2) To the extent specific applications or embodiments are professed to improve the functioning of the computer, ensure those specific embodiments are captured in the claims so that some claims are more likely to survive review.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018007803
Art Unit, Examiner:	2163, Thai
Citations:	[1] Ex Parte Hsu, 2018-007803 at 2 (PTAB Sept. 26, 2019). [2] Id. at 4-6. [3] Id. at 15-17. [4] Id. [5] Id. at 18. [6] Id. [7] Id. at 19. [8] Id.
Panelists:	Saadat, Evans (Author), Chung

Ex parte Huang (Proceeding # 2020000252)

Overview: US Patent App. No. 14/498,984, Filed September 26, 2014

Appealed 101 rejection. Rejection was affirmed.

Examiner found claim 1 to recite an abstract idea of "utilizing business rules and user interactions to associate the user with an audience group and provide an advertisement to the user based on their associated audience group" using decsion trees that can be done in the human mind and the PTAB agreed that claim 1 recited an abstract idea. [1]

Discussion: The PTAB walked through a very lengthy discussion of whether claim 1 recites a judicial exception and provides an analysis under Step 2A, Prong 1, Step 2A, Prong 2, and Step 2B. Using the Revised Guidance, the PTAB found that claim 1 recites an abstract idea as certain methods of organizing the human activity of commercial interactions of advertising activities and mental processes.[2] Although the Appellant argued that the claims reduce data processing burdens by reducing redunancy and placing more common conditions higher in the decision tree, the PTAB found that claim 1 did not recite these concepts. Although the specification discloses some of the aspects in the arguments, the PTAB did not limit claim 1 to such an embodiment when the language is so much broader. [3] The PTAB also found that claim 1 does not recite features that allegedly improve computer performance and processing of a large number of business rules and the specification did not describe the advancements in databases or software. Rather, the specification described the process at a high level of generality as mental processes or steps that can be performed by a person using pen and paper. The PTAB did not find a practical application or an inventive concept.

Representative claim:

1. A method comprising:
receiving, from a third party system, a plurality of business rules specifying criteria for whether a user of an online system is to be included in each
of a plurality of audience groups, each business rule including one or more conditions for associating a user with an audience group and each
audience group including one or more users;
generating a decision tree including the plurality of business rules, the decision tree comprising a root node and one or more paths, each path connecting the root node with one or more nodes each identifying at least one audience group, at least one path comprising an intermediate node identifying a first audience group and a leaf node identifying a
second audience group;

receiving contextual information from a client device associated with a user of the online system, the contextual information describing an interaction
between the user and content of the third party system;
determining one or more audience groups associated with the user based on a portion of the received contextual information by traversing the decision tree, wherein traversing the decision tree comprises:
traversing one or more paths of the decision tree from the root node using the contextual information, storing identifiers of nodes traversed, and
associating the user with the audience groups corresponding to the traversed nodes;
selecting an advertisement for presentation to the user based on the one or more audience groups associated with the user; and
providing the selected advertisement to the client device
of the user.

Practice tips and takeaways:	It is important to ensure that claims include features associated with improving computer performance or at a minimum have such an explanation in the specification that you could fall back on during prosecution. The claim recites "business rules" and "advertising." This probably made it difficult to find eligibility and likely biased the Examiner. Perhaps the Applicant should have focused on use of a decision tree data structure that includes rules at nodes and using received contextual information to traverse the tree according to the rules.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2020000252
Art Unit, Examiner:	3688, Meredith A. Long
Citations:	[1] Ex Parte Huang, p. 3 [2] 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50, 52 (Jan. 7, 2019) [3] Personalized Media Commc'ns, LLC v. Apple Inc. 952 F.3d 1336, 1343 (Fed. Cir. 2020).
Panelists:	Calve (Author), Capp, Plenzler

Ex Parte Ioffe (Proceeding # 2018006648)

Overview: US Patent App. No. 14/141,803, Filed December 27, 2013

Appealed 101 rejection. Rejection was affirmed.

Examiner found claim 1 to be an abstract idea that falls within the Revised Guidance's mathematical concept grouping. The PTAB found that there was not a technical problem solved and that image data was only nominally recited and linking mathematical formulas to a particular field of use.[1]

Discussion: The PTAB found that claim 1 recites an abstract idea that falls within the Guidance's subject-matter grouping of mathematical concepts. [2] In addition, under Step 2A, Prong Two, the PTAB found that the additional elements were (1) receiving the recited training data, (2) receiving the recited query, (3) outputting the recited approximate nearest neighbor, and (4) the computing device that is involved in these steps. [3] The PTAB found that the these additional elements considered individually and in combination with the other limitations did not indicate that the judicial exception has been integrated into a practical application. With respect to the Step 2B analysis, the PTAB found that claim 1 merely used a computer in a well-understood, rourtine, and conventional way. [4]

Representative claim: 1. A computer-implemented method of determining similar images, comprising:
receiving, at a computing device having one or more processors, training data that includes a set of non-matching pairs (x_1, y_1) and a set of matching pairs (x_2, y_2);
calculating, at the computing device, a non-matching collision probability $p_1(x_1, y_1)$ for each non-matching pair of the set of non-matching pairs;
calculating, at the computing device, a matching collision probability $p_2(x_2, y_2)$ for each matching pair of the set of matching pairs;
generating, at the computing device, a machine learning model that includes a first threshold (T1) and a second threshold (T2), the machine learning model being configured to classify an unknown item as not matching a particular known item when a collision probability between the unknown item and the particular known item is less than the first threshold (T1), and to classify the unknown item as matching the particular known item when the collision probability between the unknown item and the particular known item is greater than the second threshold (T2), wherein the first threshold (T1) and the second threshold (T2) are selected based on: (i) a minimization of a sum of $\max(0, p_1(x_1, y_1)-T_1)$ over the set of non-matching pairs, (ii) a minimization of a sum of $\max(0, T_2 - P_2(x_2, y_2))$ over the set of matching pairs, and (iii) a maximization of $\ln(1/T_1)/\ln(1/T_2)$;
receiving, at the computing device, a query corresponding to an unknown image;
determining, at the computing device, an approximate nearest neighbor to the query based on the machine learning model, the first threshold (T1) and the second threshold (T2); and
outputting, from the computing device, the approximate nearest neighbor corresponding to the unknown image.

Practice tips and takeaways: The specification and claim refers to a machine learning model but doesn't explain the details.

Case link: https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018006648

Art Unit, Examiner: 2122, Michael Zidanic

Citations: [1] Ex Parte Ioffe, p. 5.
[2] 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50, 52 (Jan. 7, 2019)
[3] Ex Parte Ioffe, p. 8.
[4] Ex Parte Ioffe, p. 14.

Panelists: Bisk, Craig, Repko (Author)

PTAB - Ex Parte ISHIKAWA (Proceeding #2018003873)

Overview: U.S. Patent Application Number 14/093,375, filed 11/29/2013. The Appellant appeals from the Examiner's final decision to reject claims 1–4, 6, 7, and 14–24. The Appellant appeared for Oral Argument on June 4, 2020. [1]

Discussion: Step 1: Not specifically addressed, but directed to a method, so fulfills this step.

Step 2A, Prong 1: The claim recites a way of valuating civil legal cases and disputes, which is a concept performed in the human mind, i.e., a mental process as identified in the 2019 Revised Guidance (84 Fed. Reg.at 52), as well as a method of organizing human activity of the fundamental economic practice of legal interactions (id.) and thus, an abstract idea.

Step 2A, Prong 2: The Appellant does not provide reasoning or evidence how the limitations claim a technological solution to computer-based problem, i.e., a solution "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks" as in DDR Holdings. Although the claim recites the structural element of a network and user device, as discussed above, there is no claimed technological improvement to this structure or arrangement of any structures. Any improvement in the technology lies in the abstract idea itself, i.e., valuation of civil legal cases. Accordingly, claim 1 does not contain an element that imposes a meaningful limit on the abstract idea that integrates the abstract idea into a practical application.

Step 2B: The computer that would implement the method is a conventional computing device (see supra) and operates in its ordinary and conventional capacities to perform the well-understood, routine, and conventional functions of communicating over a network, generating a data tree, computing a valuation, and adjusting the valuations. Thus, the claims to not recite signifantly more than the abstract idea.

Representative claim:	1. A computer implemented method, comprising:
	[(a)] communicating over a data or internet connection between two or more users collaborating on civil legal case valuation, wherein all users can provide input into the computations;
	[(b)] generating a decision tree for the flow of litigation to possible outcomes based on whether the valuation pertains to a case before judgment, after judgment, or for the entirety of a case before and after judgment, wherein the type of case is identified by data input from a user device or server;
	[(c)] computing a valuation for each outcome resulting from issues of law terminating the litigation based on inputspecified percentage odds of prevailing and dollar amounts expected to be gained or lost in the scope of attorney fees and costs relating to issues of law;
	[(d)] adjusting the valuation of each outcome for issues of law branches by adding input-specified expense of attorney fees and costs expended on establishing or defeating the legal viability of claims, and optionally further adjusting based on whether attorney fees and costs are reciprocal, one-way shifting, or not subject to any shifting;
	[(e)] computing the valuation for each outcome resulting from questions of fact resolving issues related to witness credibility, document authenticity, relative weights of evidence, and other strength or weakness of the evidentiary proof, including high, low, and optionally any additional applicable estimates of money damages;
	[(f)] adjusting the valuation of each outcome for questions of fact to account for input-specified expense of attorney fees and costs expended to prove or disprove factual claims, and optionally further adjusting based on whether attorney fees and costs are reciprocal, one-way shifting, or not subject to any shifting; and
	[(g)] computing the final expected value as the sum of expected, adjusted values of all possible outcomes.
Practice tips and takeaways:	This claim was most likely DOA, but it appears that drafting the claims to be impossible for the human mind to perform or at least putting such language into the Specification would be beneficial to overcoming the rejection.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018003873
Art Unit, Examiner:	Art Unit: 3649; Examiner: BORISSOV, IGOR N
Citation:	[1] Ex parte BRENDON ISHIKAWA, Appeal 2018-007639 (PTAB August 14, 2019)

Panelists: Before MICHAEL C. ASTORINO, BRADLEY B. BAYAT, and
AMEE A. SHAH, Administrative Patent Judges.

SHAH, Administrative Patent Judge.

Ex parte J. Rogers (Proceeding # 2019001423)

Overview:

US Patent App. No. 15/369,735, Filed December 5, 2016

Appealed 101 rejection of claims 1-12 and 14-21. Rejection was reversed.

PTAB found that claim 1 did not recite abstract ideas in view of the 2019 Revised Guidance. [1]

Discussion:

It was found that "claim 1 recites a machine implemented process of updating media item recommendations displayed on a user interface (a graphical user interface (GUI)), responsive to a user's interaction with (manipulation of) information displayed on the GUI." [2] The Examiner found that claim 1 involved "displaying the results of analyzing collected information" similar to *Electric Power Group* , but the PTAB found that the Examiner did not appreciate how the limitations of claim 1 operate as a whole. In particular, the PTAB found that "A user's interaction with a GUI and updating non-visible information and then displaying it based on the user's interactions is not a mental process that can practically be performed in the mind or using a pen and paper. The instant claims are similar to the claims found to be to be patent-eligible in SRI Int'l. See SRI International, Inc. v. Cisco Systems, Inc., 930 F.3d 1295, 1303–04 (Fed. Cir. 2019)." [3] In conclusion, it was found that Appellant's claim 1 does not recite a judicial exception (USPTO's Step 2A, Prong 1) because claim 1 recites a machine implemented process of updating media item recommendations displayed on a user interface, responsive to a user's interaction with the interface - the recommendation updating process - that cannot be practically performed in the human mind. [4]

Representative claim:

1. A system for updating, on a user interface, recommendations in real-time based on user selection of media item recommendations provided via the user interface, the system comprising:
one or more hardware processors configured by machinereadable instructions to:
[A] receive a user request to add a new concept that is to be learned by a neural network;
[B] cause a set of media item recommendations to be loaded on a user interface for presentation to a user responsive to the user request to add the new concept, the media item recommendation set comprising a set of recommendations loaded on an on-screen portion of the user interface and a set of recommendations loaded on an off-screen portion of the user interface, the on-screen user interface portion being visible to the user at a first time, and the off-screen user interface portion not being visible to the user at the first time;
[C] receive a user selection of one or more recommendations of the on-screen recommendation set;
[D] identify, based on the user recommendation selection, one or more recommendations of the on-screen recommendation set that are not included in the user recommendation selection as recommendations that do not convey the new concept, the identified recommendations not included in the user recommendation selection being recommendations that are not selected by the user;
[E] cause, based on the identified

recommendations not included in the user recommendation selection, the off-screen recommendation set to be updated in real-time on the off-screen user interface portion during the presentation of the media item recommendation set;

[F] cause, based on a user manipulation of the user interface, at least some of the updated off-screen user recommendation set to become visible to the user;

[G] identify, as positive examples of the new concept, based on the user recommendation selection, one or more recommendations of the on-screen recommendation set that are included in the user recommendation selection; and

[H] generate an indication on the user interface that a threshold relating to the neural network has been satisfied, the indication being generated based on a threshold number of positive examples of the new concept being identified during the presentation of the media item recommendation set.

Practice tips and takeaways:	A machine implemented process of updating a graphical user interface responsive to a user's interaction with the interface cannot be practically performed in the human mind.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019001423
Art Unit, Examiner:	2126, LAMARDO, VIKER ALEJANDRO
Citations:	[1] Ex Parte Rogers, p. 7. [2] Ex Parte Rogers, p. 8. [3] Ex Parte Rogers, p. 9 citing SRI International, Inc. v. Cisco Systems, Inc., 930 F.3d 1295, 1303–04 (Fed. Cir. 2019). [4] Ex Parte Rorgers, p. 10-11.
Panelists:	Dixon, Dang, Hughes (Author)

Ex Parte Kavis (Proceeding #2018001562)

Overview: Applicant appealed from a 101 rejection of claims 24-35 and 37-62 of US Patent Application No. 13/630,989. The Board reversed the Examiner's rejection because the Examiner did not explain which abstract idea the claims were directed to and entered its own 101 rejection.

Technology: The claims are directed to a system for detecting fraudulent coupons during a purchase transaction. [1]

Discussion: Step 2A, prong 1: The Board held that the claimed limitations recite the mental process of comparing coupon data because the claims include an observation, an evaluation, and judgment by receiving data, sending the data, and comparing the data to determine whether the coupon is fraudulent. The Board also held that the claims are directed to a method of organizing human behavior because the claims recite commercial or legal interactions.

Step 2A, prong 2: Citing in part *Electric Pwr Grp* , the Board noted that "the claimed concepts of obtaining, comparing, sending, and generating an alert reflect the types of extra-solution activity (i.e., in addition to the judicial exception) the courts have determined insufficient to transform judicially excepted subject matter into a patent-eligible application." The Board held that the claimed computer limitations are that of a general purpose computer and were therefore insufficient to integrate the judicial exception into a practical application because the claims were simply using the computer-related limitations to implement the abstract idea. Also, the computer-related limitations were merely performing calculations that could practically be performed in the mind.

Step 2B: The Board held that the computer-related limitations were described at a high level of generality and were well-understood, routine, and conventional.

Representative claim: 24. A fraudulent coupon detection system comprising:
a fraudulent coupon detection server remote from a retail location and comprising a fraudulent coupon detection processor and a fraudulent coupon memory coupled thereto;

a communications network; and

a point-of-sale (POS) device associated with the retail location and coupled to said fraudulent coupon detection server via said communications network and comprising a POS processor, a POS memory coupled to said POS processor, a display coupled to said POS processor, and an input device coupled to said POS processor, said POS processor configured to, during a purchase transaction and in near real time, receive a product identifier code via said input device, and send the product identifier code to said fraudulent coupon server via said communications network;

said fraudulent coupon detection processor configured to, during the purchase transaction and in near real time, compare the received product identifier code to a plurality of fraudulent coupon identifiers in said fraudulent coupon memory, the plurality of fraudulent coupon identifiers being associated with a plurality of fraudulent coupons for the product identifier code, and send at least one fraudulent coupon code corresponding to respective

ones of the plurality of fraudulent coupons to the POS device via said communications network based upon a match between the product code and a given one of the plurality of fraudulent coupon identifiers;

said POS processor further configured to, during the purchase transaction, generate an alert on said display based upon receipt of the at least one fraudulent coupon code.

Practice tips and takeaways:	This case is interesting because it relies on *Electric Pwr Grp* , and does so at step 2A, prong 2. Also, the Board considered whether the computer limitations were generic at step 2A, prong 2. This case shows that it is very panel dependent whether the Board will rely on the *Electric Pwr Grp* line of cases.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018001562
Art Unit, Examiner:	3621, Michael J. Cross
Citations:	[1] Ex Parte Kavis, No. APPEAL 2018-001562 (P.T.A.B. Dec. 2, 2019)
Panelists:	Turner (author), Pinkerton, Silverman

PTAB - Ex Parte Kerns (Proceeding #2018008769)

Overview: U.S. Patent Application number 15/090,326, filed April 4, 2016. Appellant appeals the Examiner's decision rejecting claims 1–22. The claims are directed to a method for structural load assessment of an aircraft.

Discussion: Step One: Claim 9 recites a method and, thus, falls within the statutory categories of 35 U.S.C. § 101.

Step 2A, Prong One: Certain steps in claim 9 recite mental processes, or in other words, concepts performed in the human mind, or with pen and paper (i.e., observation, evaluation, judgment, and opinion), and certain other steps in claim 9 recite mathematical concepts (i.e., mathematical relationships, mathematical formulas or equations, mathematical calculations), which as set forth supra, are recognized to be abstract.

Step 2A, Prong Two: Automating the step of initiating maintenance activity in response to meeting a limit exceedance state is not a practical application of the abstract idea of accounting for errors in data received from sensors, but simply the generic use of system components or an extra-solution activity. Thus, automating the step of initiating maintenance activity in response to meeting a limit exceedance state is not a practical application of the abstract idea of accounting for errors in data received from sensors, but simply the generic use of system components model, wherein the machine learning algorithm accounts for errors in the input data recorded by sensors.

Step 2B: Due to the lack of detail provided in the Specification regarding structural dynamics models, we understand that Appellant relies on the general knowledge of one skilled
in the art to understand and employ well-known structural dynamics models, as claimed. Thus, the claim is not patent eligible.

Representative claim:	9. A method for structural load assessment of an aircraft, the method comprising:

receiving flight parameters related to at least one of a ground or flight event of the aircraft, wherein the flight parameters include data recorded by one or more sensors during the at least one ground or flight event;

calculating a response load on the aircraft as a result of the at least one ground or flight event, the response load being calculated from the flight parameters and using a machine learning algorithm and a structural dynamics model of the aircraft, the machine learning algorithm being used to account for any errors in the data recorded by the one or more sensors;

comparing the response load to a corresponding design load, and based at least in part on the comparison, determining a structural severity of the at least one ground or flight event on the aircraft;

automatically initiating a maintenance activity requirement for the aircraft in an instance in which the structural severity of the at least one ground or flight event causes a limit exceedance state of at least one of the aircraft or at least one structural element of the aircraft; and

displaying information indicating the maintenance activity requirement to a user. |
Practice tips and takeaways:	Include structural dynamics models in the specification to provide the necessary structure.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018008769
Art Unit, Examiner:	Art Unit: 3663; Examiner: BERNS, MICHAEL ANDREW
Citation:	Ex parte JUSTIN D. KEARNS, et al., Appeal 2018-008769 (PTAB Sept. 19, 2019)
Panelists:	Before JAMES P. CALVE, BRETT C. MARTIN, and LISA M. GUIJT, Administrative Patent Judges.
GUIJT, Administrative Patent Judge

Ex Parte Kim (Proceeding #2018008291)

Overview: Applicant Appeal – Decided July 24, 2019

Applicant appealed Final Office Action rejection of claims 1-19 and 21-30 of Application No. 14/712,849 directed to a method of decoding audio data under 35 U.S.C. 101 as directed to patent-ineligible subject matter.

PTAB Holding: The PTAB partially reversed and partially upheld the Examiner's 101 rejection. The PTAB relied on the 2019 Revised Guidance on patent subject matter eligibility and found that method claims 1-9, 27, and 29 were directed to a patent-ineligible abstract idea, while the apparatus claims 10-19, 21-26, 28, and 30 recite an improved device configured to perform those functions that properly integrates the abstract idea into a practical application under Step 2A, prong two.

Technology: The appealed claims are directed to "method of decoding audio data" using vector dequantization and a selected "codebook" to improve the sound quality. [1]

Discussion: The PTAB found that the claims recited "mathematical concepts and mathematical relationships" in reciting and performing "vector dequantization" in its method and device claims. [2] The claims also recited "selection" of a codebook, which the board concluded could be performed in the human mind or with pen and paper, and thus constituted an abstract mental process. [3] The board concluded the "processor," "memory" and output steps did not change the basic character of the claims. [4] The claims thus recited an abstract idea under Prong One of the Guidance. [5]

Turning to prong two, the PTAB found first with respect to the method claims that they did not integrate the abstract ideas into a practical application because the recitation of a generic "processor" performing the claimed steps was insufficient. [6] However, with respect to the device claims, the board was persuaded that the devices "configured to" perform the steps were "special-purpose improved machines" and thus more than a generic computer. [7]

The PTAB rejected appellants argument that *McRO* required a different outcome for the method claims, because the claims did not improve the operation of a "physical display" (as in *McRO*) or the "operation of any other computer component." [8] Similarly, the board rejected appellants reliance on *Enfish* because the method claims did not improve the operation of the computer in the way *Enfish*'s self-referential database improved how the computer stored and retrieved data. [9]

Lastly, the PTAB found under Step 2B that the *Berkheimer* memorandum was inapplicable to the Examiner's finding as it post-dated the Final Office Action. [10] The PTAB did not address the method claims in detail, but appeared to concluded there was no inventive concept in sustaining the Examiner's rejection on those claims. [11]

Representative   1. A method of decoding audio data comprising a vector quantized spatial component of a

sound field, the method comprising:

selecting, by a processor, one of a plurality of codebooks to use when performing vector dequantization with respect to the vector quantized spatial component, the vector quantized spatial component defined in a spherical harmonic domain, and obtained through application of a decomposition to a plurality of higher order ambisonic coefficients;

performing, by the processor, vector dequantization with respect to the vector quantized spatial component using the selected one of the plurality of codebooks to obtain a vector dequantized spatial component of the soundfield;

rendering, by the processor and based on the vector dequantized spatial component, speaker feeds.

Practice tips and takeaways:	1) Ensure a variety of method and device claims to allow the best chances of some claims surviving a 101 rejection. 2) Emphasize in applications and reflect in claims improvement to a computer or computer component. Arguably a different formulation or description of the claimed devices could have framed the method claims as closer to *McRO* or *Enfish* .
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018008291
Art Unit, Examiner:	2677, Shah
Citations:	[1] Ex Parte Kim, 2018-008291 at 2 (PTAB July 24, 2019). [2] *Id* . at 9-10. [3] *Id* . at 10. [4] *Id* . at 10-11. [5] *Id* . at 11. [6] *Id* . at 12. [7] *Id* . at 13. [8] *Id.* at 13-15. [9] *Id* . at 15. [10] *Id* . at 17-18. [11] *Id* .
Panelists:	Courtenay (author), Hume, Bennett

Ex Parte Kimizuka (Proceeding #2018001081)

Overview: Applicant Appeal – Decided May 15, 2019

Applicant appealed Final Office Action rejection of claims 7, 8, and 13 of Application No. 13/871,055 directed to a golf club fitting method under 35 U.S.C. 101 as directed to patent-ineligible subject matter.

PTAB Holding: The PTAB sustained the Examiner's 101 rejection. The PTAB found that the claimed method recited an ineligible mental process of evaluating and recommending golf clubs to a customer. The PTAB further found that the claimed invention lacked a technical solution to a technical problem and was directed to the patent-ineligible mental process, as opposed to being integrated into a practical application of the abstract idea. The PTAB finally found that the additional elements of the claim did not provide an inventive concept. The PTAB likewise found that claim 13 directed to the actual selection of the golf club was similarly ineligible.

Technology: The appealed claims are directed to "a fitting method of a golf club" including creating a hit ball database based on certain hit ball parameters, measuring a subject's golf swing parameters, using a processor to determine a suitable dynamic loft for the subject based on several considerations, and recommending a loft angle based on the determined dynamic loft difference. [1]

Discussion: The PTAB found that the claims recited a patent-ineligible concept under the revised Guidance. The PTAB evaluated each of the "determining" steps of the claim used to select a recommended golf club and found that "under the broadest reasonable interpretation of claim 7, the recited determinations can be practically performed in the mind" which therefore caused them to fall "within the Guidance's mental-process grouping." [2] The PTAB walked through each of the "determining" steps and analyzed the data reviewed and determination made, analogizing the steps to those that could be performed by a human or "with the assistance of pen and paper", including looking up values in a table and performing simple subtraction and addition of those values. [3]

The PTAB next found that the claim was "directed to" that patent-ineligible concept and failed to integrate that concept into a practical application. [4] The PTAB pointed to the specification's disclosure of a non-technical invention of "help[ing] a user select a club that fits the player's needs" as opposed to an improvement of "how the measurements are taken" or "how the golf club is manufactured," distinguishing cases such as Enfish or McRO. [5] The "mere presence of a database or a processor here does not necessarily indicate a technical solution." [6] The PTAB then considered that database and processor and determined those "additional elements" were insufficient token elements. [7] The

and determined those "additional elements" were insufficient token elements. [7] The processor was "merely used to perform calculations" that could be performed in the human mind, [8], the database merely "stores the results" of the data gathering steps, [9], and the "measuring" steps broadly recited data collection of the needed values. [10]. The PTAB further reviewed the additional "indicia of integration" including "transformation and reduction of an article" and concluded none of them were present. [11]

The PTAB finally considered the "inventive concept" prong of the Guidance, reevaluating the same "processor" and "database" limitations. [12] For similar reasons to the "practical application" prong, the PTAB concluded that those limitations did not provide anything more than well-understood, routine, and conventional additions to the claim to perform the claimed steps, and the claim as a whole was "simply an 'abstract-idea-based solution implemented with generic technical components in a conventional way.'" [13] The PTAB therefore found that the claims were patent-ineligible under the revised Guidance.

Representative	7. A fitting method of a golf club, comprising the following steps of: creating a hit ball result database based on ball initial velocity prediction data, launch angle prediction data, and back spin prediction data, the ball initial velocity prediction data being data capable of predicting a ball initial velocity based on the dynamic loft and the blow angle, the launch angle prediction data being data capable of predicting a launch angle based on the dynamic loft and the blow angle, and the backspin prediction data being data capable of predicting a backspin based on the dynamic loft and the blow angle, wherein the hit ball result database is obtained by actual measurement and/ or a simulation; measuring a subject's head speed, dynamic loft, and blow angle using a reference club; determining, by a processor, a suitable dynamic loft based on only the measured head speed, the measured dynamic loft, and the measured blow angle, the suitable dynamic loft being defined as a dynamic loft achieving a predetermined hit ball result, wherein the hit ball result database is used for determining the suitable dynamic loft, the hit ball result database includes correlation data between the dynamic loft and the blow angle which are created for each head speed, and the hit ball results in the dynamic lofts in the measured blow angle are compared using the hit ball result database; determining a dynamic loft difference from the suitable dynamic loft and the measured dynamic loft; and determining a recommended loft angle based on a loft angle of the reference club and the dynamic loft difference, wherein the hit ball result includes a flight distance.
Practice tips and takeaways:	Note: Post Appeal, Applicant amended the claims to add structural limitations and specific method limitations directed towards an improvement to golf fitting technology, which led to a subsequent allowance by the Examiner. In the Examiner's statement of reasons for allowance, the Examiner found that "Applicant has added structural limitations to take an abstract idea [a method of fitting golf clubs] and further integrating it into a practical

application." See, Notice of Allowance dated August 4, 2020 for Application No. 13/871,055, pg. 2.

1) Claims directed towards a process that can be performed in the human mind will likely not be found patent eligible by PTAB (as well as Federal Circuit) unless Applicant adds specific elements directed to the improvement in computer technology, or the particular technology field or process. See, MPEP 2106.05(a) for USPTO Guidance on "Improvements to the Functioning of a Computer or To Any Other Technology or Technical Field".

2) Claims focused on "determining" or other data-analysis steps should emphasize and claim specific elements that support the inability to perform those steps manually or in the human mind; such specific elements should be supported in the Specification to emphasize the unique advantages of performing the steps through software for the particular technology field or technological process (i.e., golf club fitting technology),

3) Applicants should emphasize and highlight any technical innovations in the invention, both in the specification and the claims (i.e., prepare Specification and claims to support technical solution to a technical problem).

4) The "directed to" and "inventive concept" prongs of the Guidance can be overlapping in analysis; specific considerations can overlap the Examiner or the PTAB.

Case link:	https://www.uspto.gov/sites/default/files/documents/Ex%20Parte%20Kimizuka.pdf
Art Unit, Examiner:	3711, Stanczak
Citations:	[1] Kimizuka, 2018-001081 at 2-3 (PTAB May 15, 2019).
	[2] Id. at 8.
	[3] Id at 8-10.
	[4] Id at 10.
	[5] Id. at 11.
	[6] Id.
	[7] Id at 12-15.
	[8] Id.
	[9] Id.
	[10] Id.
	[11] Id at 15.
	[12] Id at 16-19.
	[13] Id at 20-21.
Panelists:	Tierney, Repko (Author), Cygan

Ex Parte Yifang Liu (Proceeding # 2019002937)

Overview: US Patent App. No. 14/230222, Filed March 31, 2014

Appealed 101 rejection which was reversed.

The claims are directed to determining mutual information of two random variables and "is thus one or more of 'mathematical relationships, mathematical formulas or equations, mathematical calculations.''[1], citing the 2019 Revised Guidance.[2]

Additional limitations were found to integrate the recited judicial exception of a mathematical concept into a practical application, as the specification described: "[t]he determination of mutual information with absolute dependency between two random variables may be optimized for accuracy, increasing prediction precision."[3]

Discussion: The board characterized the claim as directed to an abstract idea by characterizing the first two of many elements as related to a mathematical concept. Since the remaining elements recited details of how a technical problem described in the application was solved, the board found that the abstract idea was integrated into a practical application.[4]

Interestingly, the claim included a description of how to value properties, and this case could have been characterized as a business method but for the practical application.

Representative claim:	1. A computer-implemented method performed by one or more computers of a machine learning system, the method comprising: receiving, by the one or more computers of the machine learning system, a dataset comprising multiple items of a same type, wherein each item has multiple properties; determining, for each of multiple iterations, a value representing mutual information between a first property and a second property, wherein, for each iteration, determining the value comprises: selecting, by the one or more computers of the machine learning system, one of the multiple properties as the first property and another of the multiple properties as the second property; and determining, by the one or more computers of the machine learning system, the value representing the mutual information between the first property and the second property that are selected for the iteration, wherein the value representing the mutual information is generated using a summation of terms that are generated using logarithm values, and wherein the values of the terms are generated using an absolute value operation that disallows negative logarithm values from decreasing the summation; based on the determined values representing mutual information between the selected properties from the multiple properties, selecting, by the one or more computers of the machine learning system, a subset of the multiple properties for use in the machine learning system; receiving, by the one or more computers of the machine learning system, another item of the same type as the multiple items from the dataset, wherein the other item has a known value for at least one of the subset of properties; predicting, by the one or more computers of the machine learning system, a value for a property of the other item having an unknown value, wherein the value is predicted using a machine learning model of the machine learning system based on the known value for the at least one of the subset of properties; and providing, by the one or more computers of the machine learning system, the predicted value over a network to a client device for display on a user interface of the client device.
Practice tips and takeaways:	Even if your application is a business method, including a description of a technical problem can save it, especially if you have claim elements reciting specific steps performed by the computer that help solve the described technical problem.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019002937
Art Unit, Examiner:	2124, Kevin Figueroa
Citations:	[1] Ex Parte Yifang Liu 2019002937, 8 [2] 2019 Revised Guidance, 84 Fed. Reg. 52. [3] Ex Parte Yifang Liu, 9 [4] Id. 10
Panelists:	MacDonald, Curcuri (Author), Bennett

Ex Parte Lundgren

Overview: USPTO Request for rehearing from Applicant Appeal – Decided April 20, 2004
US Pat. App. No. 08/093516

The USPTO appealed a reversal of an examiner's Final Office Action rejection of the claims as not directed to the technological arts.

PTAB Holding: The PTAB reversed the Examiner's 101 rejection solely based on the use of an improper test for eligibility. A dissent would have found the claims ineligible " because the process as claimed is not tied to any known science or technology." A 70+ page concurrence also believes the claims are not eligible, reviewing relevant cases as of 2004.

Technology: The appealed claims are directed to "determining how to compensate a manager"

Discussion: This precedential decision indicates that there is no technological arts test and reversed the examiner solely on the ground that the incorrect test was used.[1] If you want a nice summary of the 101 law prior to 2004, there is a long concurrence.[2] Since this is pre-Alice, there may not be much help in this case other than the knowledge that there is no technological arts test. There is some reference to the useful concrete and tangible test being indicative of eligibility, for whatever that is worth. Note also that it appears the panel was stacked to arrive at the desired opinion. I have now lost track of all the different eligibility tests used since I have been practicing.

Representative claim: 1. A method of compensating a manager who exercises administrative control over operations of a privately owned primary firm for the purpose of reducing the degree to which prices exceed marginal costs in an industry, reducing incentives for industry collusion between the primary firm and a set of comparison firms in said industry, or reducing incentives for coordinated special interest industry lobbying, said set of comparison firms including at least one firm, said primary firm having the manager who exercises administrative control over said primary firm's operations during a sampling period, wherein privately owned means not wholly government owned, the method comprising the steps of:
a) choosing an absolute performance standard from a set of absolute performance standards;

b) measuring an absolute performance of said primary firm with respect to said chosen absolute performance standard for said sampling period;

c) measuring an absolute performance of each firm of said set of comparison firms with respect to said chosen absolute performance standard for said sampling period, said measurement of performance for each firm of said set of comparison firms forming a set of comparison firm absolute performance measures;

d) determining a performance comparison base based on said set of comparison firm absolute performance measures by calculating a weighted average of said set of comparison firm absolute performance measures;

e) comparing said measurement of absolute performance of said primary firm with said performance comparison base;

f) determining a relative performance measure for said primary firm based on said comparison of said primary firm measurement of absolute performance and said performance comparison base;

g) determining the managerial compensation amount derived from said relative performance measure according to a monotonic managerial compensation amount transformation; and

h) transferring compensation to said manager, said transferred compensation having a value related to said managerial compensation amount.

Practice tips and takeaways:	None
Case link:	https://www.uspto.gov/sites/default/files/ip/boards/bpai/decisions/prec/2003-2088.pdf
Art Unit, Examiner:	3623
Citations:	[1] Lundgren, 2003-2088 at 9 (PTAB April 20, 2004). [2] Id. at 10
Panelists:	FLEMING, Chief Administrative Patent Judge, HARKCOM, Vice Chief Administrative Patent Judge, and HAIRSTON, JERRY SMITH, and BARRETT.

Ex Parte Martin (Proceeding #2018000850)

Overview: Applicant appealed from a rejection of US Patent Application No. 12/132,227 claims 6-10 and 15-19 based on 101. The Board reversed the Examiner because the claims are not directed to an abstract idea and entered new grounds.

Technology: The claims are directed to "method and apparatus embodiments that use communications between document processing devices to automatically provide results of lab tests in a format that is the most appropriate for the office that prescribed the lab tests." [1]

Discussion: The Board found that the claims were not directed to an abstract idea because the claims include, for example, "scanning a document . . . using a second document processing device," "identifying, using said second document processing device, said lab test . . . based only on said machine readable code" and various other actions using the second document processing device. The Board also mentioned that the specification discloses using a second processing device that performs some automated processing of a scanned image to identify the lab test to be performed on a patient. The Board never mentions, however, that the technologies used were anything other than generic.

Representative claim: 6. A method comprising:
scanning a document printed by a first document processing device using a second document processing device separate from said first document processing device, said document comprising machine readable code, said machine readable code comprising information of a patient, information of at least one lab test to be performed, and delivery method information;

identifying, using said second document processing device, said lab test to be performed on said patient based only on said machine readable code, and by reading said lab test to be performed from said machine readable code;

delivering to a lab technician, using said second document processing device, an identification of said patient and an identification of said lab test to be performed;

after said lab test has been performed on said patient using lab testing equipment operatively connected to said second document processing device, formatting lab test results according to a format required by said first document processing device to create formatted lab test results, using said second document processing device, said formatting being performed based only on said delivery method information from said machine readable code, and by reading said delivery method information from said machine readable code; and

delivering said formatted lab test results from said second document processing device to said first document processing device based only on said delivery method information.

Practice tips and takeaways: This case seems like it could have fit into the abstract ideas found in the *Electrical Pwr Grp* line of Fed Cir cases. This case may serve as an example where the PTAB would find a claim patent eligible that the Federal Circuit would not.

Case link: https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018000850

Art Unit, Examiner: 3686, Linh Giang Le

Citations:		[1] Ex Parte Martin, No. APPEAL 2018-000850 (P.T.A.B. Dec. 9, 2019)

Panelists:		Ren (author), Hanlon, Wilson

Ex Parte Mazur (Proceeding #2021000501)

Overview: Applicant appealed from a rejection of US Patent Application No. 16/411,024 claims 1, 3–5, 7–10, 12–14, 16–19, 21, and 23–26 based on 101. The Board affirmed the Examiner because the claims are directed to an abstract idea.

Technology: The claims are directed to "account cycle dates or end dates of an account cycle, such as monthly account closing dates." Claims 1, 10, and 19 are independent. Claim 19 was considered the illustrative claim. [1]

Discussion: The Board found that the "limitations [(a) through (g) of claim 19], when given their broadest interpretation, recite a method for designating a cycle end date for a revolving credit account. The concept of designating a cycle end date for a revolving credit account, as set forth above by limitations (a) through (g) of claim 19, pertains to fundamental economic practices and/or commercial interactions (including agreements in the form of contracts, and/or sales activities or behaviors), which are both a certain method of organizing human activity and, therefore, an abstract idea." [1]

In Step 2A appeal arguments, the Appellant cited *Ex parte Adjaoute* , Appeal 2018-007443 (PTAB 2018). The Board stated that "What a different panel did in a different situation under a different set of facts has little bearing on the proper disposition of this case. Adjaoute is a non-precedential decision of the Board; therefore, it is not binding on this panel." The Board then performed their own Step 2A analysis and concluded that there is "no indication in the Specification, nor does Appellant direct us to any indication, that the operations recited in claim 19 require any specialized computer hardware or other inventive computer components" and that there is "no indication in the Specification that the claimed invention effects a transformation or reduction of a particular article to a different state or thing." [1]

The Appellant's arguments also failed for Step 2B. The rejection based on 101 was affirmed.

Representative claim: 19. A method comprising:
     [(a)] querying a database for indications of a plurality of data points related to an owner of a revolving credit account;
     [(b)] receiving from the database, at a processor, indications of the plurality of data points related to the owner of the revolving credit account, the revolving credit account having a plurality of potential cycle end dates;
     [(c)] executing, by the processor, a cycle date optimization model to determine, for each of the plurality of potential cycle end dates, a probability of delinquency based on the plurality of data points, wherein the cycle date optimization model is a regression model, a logistic regression model, a neural network model, a pattern classification model, or a decision tree model;
     [(d)] identifying as optional cycle end dates a sub-set of the plurality of potential cycle end dates having the lowest probability of delinquency, where the sub-set of the plurality of potential cycle end dates includes less than all of the plurality of potential cycle end dates;

[(e)] sending, to a customer computing device, an information element comprising indications of the optional cycle end dates, the customer computing device to present the optional cycle end dates on a display of the customer computing device and receive an indication of a one of the optional cycle end dates from a user;

[(f)] receiving, from the customer computing device, an indication of the one of the optional cycle end dates as a desired cycle end date; and

[(g)] designating, as a cycle end date for the revolving credit account, the desired cycle end date.

Practice tips and takeaways:	When citing a PTAB decision in an argument, use only precedential or informative decisions because the Board considering your matter is not bound by any other PTAB panel's decisions.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2021000501
Art Unit, Examiner:	3691, Olabode Akintola
Citations:	[1] Ex Parte Mazur, No. APPEAL 2021-000501 (P.T.A.B. Dec. 31, 2020)
Panelists:	Astorino, Bayat, and Hutchings (author)

Ex Parte Milne (Proceeding #2018001757)

Overview:
Applicant appealed from a non-final rejection of US Patent Application No. 15/066,792 claims 1-7 and 17-20, including a 101 rejection of claims 17-20. The Board affirmed the 101 rejection of claims 17-20 and entered a new 101 rejection for claims 1-7.

Technology: Sharing video content among customers in a video network. [1]

Discussion:
The Board summarized the claim limitations other than the generic technology as steps taken by two or more persons sharing content: (1) make a request for content; (ii) search for the content; (iii) enable access to the content; (iv) provide a message regarding agreement to share content; (iv) provide a message regarding agreement to share content; (v) select to receive the content; or (vi) select to not receive the content.

Step 2A, prong 1: The Board held that sharing content among two or more persons fits into the abstract idea category of "managing personal behavior or relationships or interactions between people."

Step 2A, prong 2: The Board found that the abstract idea is carried out using generic technology, and therefore does not integrate the judicial exception into a practical application. Also, the claimed subject matter did not improve the technology and was not limited to a particular machine. The Board held that the claim does not transform matter, at best it transforms information. Additionally, the Board addressed preemption, relying on *Ariosa* by stating "the absence of complete preemption does not demonstrate patent eligibility."

Step 2B: The Board found that other than generic technology, there were only

Representative claim:
17. A method comprising:
receiving at a first digital video recorder (DVR) a request for content;

accessing a multiple systems operator (MSO) community network to search for the content;

responsive to locating the content on a second DVR in the MSO community network remote from the first DVR, enabling access to the content by the first DVR;

presenting a message to inform that by accessing content on the MSO community network, a user agrees to share content on first DVR with other members of the MSO community network;

streaming the content from the second DVR to the first DVR responsive to selection of a first selector presented to a user of the first DVR adjacent the message; and

not streaming the content from the second DVR to the first DVR responsive to selection of a second selector presented to a user of the first DVR.

Practice tips and takeaways:
This case demonstrates the importance of showing an improvement to technology, particularly where human interactions are involved. Also, transformation of information will not be enough, which used to be a question practitioners had in the 1990s based on *Arrhythmia Research* (Fed. Cir. 1992).

Ex Parte Olson (Proceeding #2017006489)

Overview: Applicant Appeal – March 25, 2019

Applicant appealed Non-Final Office Action rejection of claims 7-13, 40, and 41 of Application No. 11/715,923 directed to a method for a locally deformable registration of a catheter navigation system under 35 U.S.C. 101 as directed to patent-ineligible subject matter.

PTAB Holding: The PTAB reversed the Examiner's 101 rejection. The PTAB found that while the claims recite mathematic concepts and algorithms to register the catheter navigation system to a three-dimensional image, they also recite additional elements that apply the mathematical algorithms to improve the registration of the catheter navigation system and reduce errors found in the prior art and apply those mathematical concepts with a particular machine. The PTAB concluded each of these demonstrate that the algorithms were integrated in a practical application under Step 2A, Prong 2 of the USPTO 2019 Subject Matter Eligibility Guidance.

Technology: The appealed claims are directed to a method of registering a catheter navigation system to a three dimensional image including obtaining a three-dimensional image of the heart including position information on the heart surface, placing a tool onto a surface location, measuring the tool position information to a different coordinate frame, and associating the position information of the tool onto the three dimensional image using mathematical mapping functions and error functions. [1]

Discussion: The PTAB found that under the first step in the Guidance, the claims did recite a mapping function that transforms coordinate points using "the mathematical relationships between coordinate frames X and Y, the mathematical formula for the error function $f(X_i) – Y_i = 0$, and the mathematical calculation using a thin plate splines algorithm to generate the mapping function by summing a fixed number of weighted basis functions." [2] Therefore, the PTAB concluded that Appellants claimed the "use of mathematical equations to register a catheter navigation system to a three-dimensional image," which is a "judicial exception of a mathematical concept." [3]

The PTAB next found that there are "additional elements" that integrate the claimed judicial exception of a mathematical concept into a practical application under Step 2A, Prong 2. [4] In particular, the claims recite specific steps of placing the tool onto the surface of the heart and associating the position information with the three-dimensional image, which apply the algorithms "recited in the claims in a meaningful way, such that it is more than a drafting effort designed to monopolize the mathematical concepts exception." [5] The claims use the algorithms to "improve registration of a catheter navigation system" and "reduce errors in the localization field" found in the prior art. [6]

The PTAB analogized this to claims upheld in Diehr and Thales which found eligible applications of mathematical concepts to improve particular technology. [7]

The PTAB finally also applied the mathematical concepts with a "particular machine" similar to the GPS receiver in SiRF, and that the catheter navigation system is "integral to the claims." [8] This further supported the PTAB's conclusion that the claims were an eligible practical application under Step 2A, Prong 2. The PTAB did not address the "inventive concept" under step 2B of the Guidance.

Representative	7. A method of registering a catheter navigation system to a three-dimensional image, comprising:
	a) obtaining a three-dimensional image of at least a portion of a heart, the three-dimensional image including position information for a plurality of location points on a surface of the heart measured relative to a coordinate frame Y;
	b) placing a tool on a surface location X of the heart;
	c) measuring position information for the surface location X relative to a coordinate frame X;
	d) identifying a corresponding location Yi on the three-dimensional image;
	e) associating the position information for the surface location X as measured by the catheter navigation system relative to coordinate frame X with position information for the corresponding location Yi on the three-dimensional image relative to coordinate frame Y as a fiducial pair (Xu, Yi); and
	f) using at least two fiducial pairs (Xi, Yi) to generate a mapping function f that transforms points within coordinate frame X to coordinate frame Y such that, for each fiducial pair (X, Yi), an error function $f(Xi) - Yi = 0$, wherein the step of using at least two fiducial pairs to generate a mapping function comprises:
	using a thin plate splines algorithm to generate the mapping function,
	wherein the thin plate splines algorithm comprises summing a fixed number of weighted basis functions,
	wherein the fixed number of weighted basis functions is the same as a number of fiducial pairs that were associated, and
	wherein the mapping function compensates for inhomogeneities in the catheter navigation system such that, for each fiducial pair (X, Yi), the error function $f(Xi) - Yi = 0$.
Practice tips and	1) Claims that incorporate mathematical concepts should recite the surrounding technology and implementation details of the algorithm to ensure it is viewed as a "practical application" of those concepts.

2) Specifications should likewise highlight the benefits to the technology and specific uses of any mathematical concepts within the technology.

3) Proper incorporation of technology into claims can render the claims a "practical application" and avoid getting into a debate over whether that technology is "well-understood" as part of the inventive concept step.

Case link: https://www.uspto.gov/sites/default/files/documents/Ex%20Parte%20Olson.pdf

Art Unit, Examiner: 3793, Nguyen

Citations: [1] Olson, 2017-006489 at 2-3 (PTAB March 25, 2019).
[2] Id. at 10.
[3] Id.
[4] Id at 11.
[5] Id.
[6] Id at 11-12.
[7] Id at 12.
[8] Id at 12-13.

Panelists: Fredman, Paulraj (Author), Worth

Ex Parte Pan (Proceeding #2019004979)

Overview: Applicant appealed from a rejection of US Patent Application No. 14/701,116 claims 1-24 based on 101. The Board affirmed the Examiner because the claims are directed to an abstract idea.

Technology: The claims are directed to "hierarchical distribution of content where information is received related to a talent event, determination is made that a participant was a member of the hierarchical content network, features corresponding to the item of content are identified, and determination [is made] that the item of content at least partially contributed to the occurrence of the talent related item based on the features identified." Claims 1, 9, and 17 are independent. Claim 1 was considered the illustrative claim. [1]

Discussion: The Appellant argues that the claims are directed to an improved to the technology of social networking service by using a hierarchical electronic content distribution system to distribute content to a wider audience. That is, "Appellant argues that, because '[t]he claims are directed to . . . technical solutions that use a hierarchical content distribution network . . . the claims are not directed to the alleged abstract idea of organizing human activity.'" The Board states that the limitations that the Appellant references are still mental processes and even if improvement were there, they would still be ineligible abstract ideas. [1]

Further, the Appellant presents arguments detailing similarities between the present claims and *Enfish* , specifically, the board focuses on the argument of "[l]ike the self-referential table in Enfish, the claimed hierarchical content network data structure is a specific type of data structure designed to improve the way the computing device – to wit, a social networking service – stores and retrieves data in memory. Additionally, this data structure is used to improve the social networking service by allowing a correlation between a content share and a subsequent external event" found in the Appeal Brief. The Board diagrees based on the reasoning below in the Step 2A, Prong 2 analysis that the "'hierarchical content distribution network' just refers to the path by which information is shared in a social network, and the graph data structure is just an abstract representation of that path." The Board state that based on this understanding, the claims do not map to the *Enfish* self-referential table. [1]

Finally, the Appellant presents arguments relating to "significantly more," because "data structures provide a means for tracking content activities throughout the social networking service and are thus integral to determinations of causation of subsequent events." The Appellant argues that said data structures are specific to social networking services and address a particular problem in network-based computing like the system of *DDR Holdings v. Hotels.com* . Appellant provides a specific problem being solved and states that specific computer data structures are recited in the claims. The Board disagrees with the comparison to *DDR Holdings* stating that "claim 1 merely tracks the path of an item of content as it is shared among members of a social network, along with tracking the

interactions of members with the item of content, then analyzes the acquired data after a talent-related event in order to determine whether the item of content contributed to the event. The claimed method of acquiring and analyzing data is not comparable to the technical solution at issue in DDR Holdings." [1]

Step 2A, Prong 1: The Board finds that the steps of receiving ..., determining ..., determining ..., and determining ... recite abstract ideas including performing actions that can be carried out in the human mind. The analysis by the Board is straightforward.

Step 2A, Prong 2: The Board identified that in addition steps that are equivalent to mental processes, claim 1 recites "a social networking service comprising one or more computer processors." The Board provides a detailed analysis including reference back to the Specification that while these include servers and other specific machines, these are still generic. The Board also points out that the description of the hierarchical content distribution network as a graph data structure does not add structure to the claim and does not require any particular distribution pattern. Therefore, it does not impose any limits on teh structure of teh claimed social networking service. In total, the Board concludes that the additional elements of claim 1, beyond the recited judicial exception, merely represent "instructions to implement an abstract idea on a computer, or merely use[] a computer as a tool to perform an abstract idea." Revised Guidance, 84 Fed. Reg. at 55. Therefore, the additional elements do not integrate the recited abstract idea into a practical application. [1]

Step 2B: The Board reiterates its generic computing system arguments.

Representative claim: 1. A communication system comprising:

a social networking service comprising one or more computer processors to:

implement a hierarchical electronic content distribution system including one or more graphical user interfaces to facilitate creation of at least one hierarchical content network that is specific to an item of content, wherein the at least one hierarchical content network is described by a graph data

structure that is rooted at an organizational member of the social networking service that shared the item of content, and wherein a first level of the graph data structure comprises nodes that correspond to members of the social networking service that identify themselves as being employed by the organization and with whom the item of content was shared; and

wherein, in subsequent levels of the graph data structure, each particular child node corresponds to a member of the social networking service that was a recipient of a share of the item of content by its parent node, the parent node of the particular child node corresponding to a member of the social networking service that is connected through the social networking service to a member that corresponds to the particular child node;

receive an indication of an occurrence of a talent-related event;

determine that a participant in the talent-related event was a member of the at least one hierarchical content network the participant a member of the social networking service;

determine one or more features corresponding to the item of content, the one or more features including at least one or more interactions between the participant and the item of content; and

based upon the one or more features, determine that the item of content at least partially contributed to the occurrence of the talent-related event.

Practice tips and takeaways:

The arguments of the Appellant relied on the claim reciting a "hierarchical electronic

content distribution system." The Board clearly interpretted the term more broadly and/or generically than the Appellant intended. For claim terms and/or portions of the invention that the Applicant feels provides the "something more," "improvement in technology function,"or transformation that may later become necessary to rely on to overcome 101 rejections, drafters should provide clear descriptions that are as detailed as reasonable to mitigate the broad and generic interpretation that examiners and board members appear to lean towards.

Case link: https://developer.uspto.gov/ptab-
                           web/#/search/documents?proceedingNumber=2019004979

Art Unit, Examiner: 3624, Nancy N Prasad

Citations: [1] Ex Parte Pan, No. APPEAL 2019-004979 (P.T.A.B. Oct. 29, 2020)

Panelists: Grimes (author), Townsend, Hardman

Ex Parte Rajasekharan (Proceeding #2020004120)

Overview:	Applicant Appeal

Applicant appealed Final Office Action rejection of claims 1-24 of Application No. 16/129,312 directed to a multitrack performance scoring system for digital assets under 35 U.S.C. 101 as directed to patent-ineligible subject matter and under 103 as unpatentable under Komuves, Brotman, and other references.

PTAB Holding: The PTAB affirmed the Examiner's 101 rejection. The PTAB relied on the 2019 Revised Guidance on patent subject matter eligibility and found that: (1) the claims were directed to a method of organization human activity under Step 2A, Prong One of the Revised Guidance; and (2) the abstract idea is not integrated into a practical application under Step 2A, Prong Two.

Technology: The appealed claims are directed to a "brand management server" for multitrack performance scoring of digital assets based on the manner in which those assets have been accessed or utilized by an audience.[1]

Discussion:	First, the Board determined that the claims are directed to determining the popularity of a digital asset based on consumption metrics, and that this is a "method [of] organizing human activity such as advertising, marketing or sales activity" that fell under the judicial exception category under the Guidelines. [2] In particular, the Board determined that the steps with regard to the digital assets simply comprised "analyzing information" that people would go through in their minds. [3]

Turning to Prong Two of the Guidelines, the Board found that the claimed "brand manager server" did not impose a meaningful limitation standing alone that created a practical application. [4] The Board also found no indication in the Specification that the claim required specialized programming or computer hardware other than generic hardware performing generic computer functions. [5] The Board also found nothing of record "short of attorney argument" that attributed any improvement to computer technology to the claimed invention. [6] As a result, the Board found the claims did not constitute a practical application of the abstract idea. [7]

Finally, under Alice Step Two, the Board found that the functions separately and as an ordered combination were purely conventional and insufficient. [8] The Board then rejected an argument by the Appellant that improved asset performance evaluation methods constituted "singificantly more" than the abstract idea, given the lack of connection to specific technology. [9] And the Board rejected the argument that dependent claims directed to machine learning models of the assets, as simply analogous to performing the method on a computer, as opposed to changing the method's character. [10] The Board therefore upheld the Examiner's rejections.

Representative claim:	A system comprising:

a brand management server comprising:

a memory that stores assets comprising digital media; and

a controller that distributes the assets for consumption by members of an audience at

remote devices,

for each of the assets, the controller automatically determines a look-back period, acquires metrics indicating at least two different types of consumption of the asset by the audience during the look-back period, and calculates an asset score for the asset that indicates a popularity of the asset and is based on the metrics indicating the at least two different types of consumption, wherein the asset score comprises a weighted combination of the metrics of the at least two different types of consumption, and each of the metrics has its own weight,

wherein asset scores for assets in different brands are calculated concurrently in real-time using different weighted combinations of the metrics, and

the controller presents asset scores via a Graphical User Interface (GUI) for review by a user.

Practice tips and takeaways:	1) Recitation of a "machine learning model" is insufficient without more to change the character of the claims. 2) Direct ties in the specification to computer-specific problems or analysis are helpful to overcome data analysis rejections. 3) Use the specification and claims to point specifically to how the machine learning algorithm or AI model will improve the functionality of the computer at hand.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2020004120
Art Unit, Examiner:	3688, Duran
Citations:	[1] Rajasekharan, 2020-004120 at 1-2 (PTAB Dec. 24, 2020). [2] Id. at 4-5. [3] Id. [4] Id. at 6. [5] Id. [6] Id. [7] Id. at 7. [8] Id. at 8. [9] Id. at 10. [10] Id. at 13.
Panelists:	Crawford (Author), Fischetti, Schopfer

Ex Parte Roberts (Proceeding #2020002333)

Overview: Applicant Appeal – October 23, 2020

Applicant appealed a rejection of claims 7-23 of Application No. 15/649,061 directed to a method for using mathematical models to determine whether or not to dispatch a technician in response to customer support issues under 35 U.S.C. 101 as directed to patent-ineligible subject matter.

PTAB Holding: The PTAB affirmed the Examiner's 101 rejection. The PTAB found that the claims are directed to a method of organizing human activity and that significantly more is not recited as the remaining elements are recited at a high level of generality. [1]

Technology: The appealed claims are directed to improving a customer support process by using a dispatch model to determine whether to dispatch a technician and/or an analysis model to determine one or more actions to be taken to resolve the customer support issue. The mathematical models may process a feature vector that includes features relating to text of the customer support request and other information such as the operational status of the service provided to the customer. A dispatch model may process the feature vector to determine whether to dispatch a technician and an analysis model may process the feature vector to select one or more actions to be performed by the technician or another person. Influential features may be identified and used to provide additional information relating to decision or selections of the mathematical models.

Discussion: The PTAB found that under the first step in the Guidance, the claims did recite a method of organizing human activity by simply determining whether or not to dispatch a technician. The activity that was controlled was that of the technician. "We concur with the Examiner's analysis, and consider the claim to recite a method of managing relationships or interactions between people (whether to dispatch a technician and actions of the technician). Further, we note that Appellant's statement "[t]he present claims transform the information from the text of the customer request into a feature vector, and control the physical movement of a technician in response to the transformed information" on page 17 of the Appeal Brief, further supports the conclusion that the claim recites an abstract concept of managing personal behavior, as Appellant acknowledges the claim recites control of the physical movement of a technician."[2]
The PTAB also indicated that the claims do not recite a practical application of the abstract concept. "Here, Appellant has not shown nor does the Specification identify that the system improves the operation of the computer functionality, rather the Specification identifies that the invention "relates to using mathematical models to determine whether to dispatch a technician for customer support purposes" and that the use of the invention on a computer is to lower the expense associated with dispatching a technician and improve customer service. Spec. ¶ 0001, 0004."[3] The PTAB did not address the "inventive concept" under step 2B of the Guidance.

Representative claim:

1) A computer-implemented method for responding to a customer support request: receiving first text of a first customer support request from a first customer, wherein the first customer receives a service from a first company; computing a first feature vector for input into a mathematical model, wherein the first feature vector comprises (i) features computed using the first text of the first customer support request and (ii) features relating to one or more of an operational status of the service, previous customer support requests of the first customer, information obtained from an account of the first customer, or customer support requests received from other customers; determining to dispatch a technician to assist in resolving the first customer support request by processing the first feature vector with a dispatch model, wherein the dispatch model is a mathematical model configured to process a feature vector and output a decision regarding dispatch of a technician; selecting a first action from a plurality of possible actions by processing a second feature vector with a first analysis model, wherein the first analysis model is a mathematical model configured to process a feature vector and output values indicating an action to be performed in response to a customer support request, and wherein the second feature vector comprises a feature vector for input into a mathematical model, and further comprises the first feature vector or another feature vector; transmitting to a first person (i) information about the determination to dispatch a technician to assist in resolving the first customer support request and (ii) information about the selected first action; receiving second text of a second customer support request from a second customer, wherein the second customer receives the service from the first company; computing a third feature vector for input into a mathematical model, wherein the third feature vector comprises (i) features computed using the second text of the second customer support request and (ii) features relating to one or more of an operational status of the service, previous customer support requests of the second customer, information obtained from an account of the second customer, or customer support requests received from other customers; determining not to dispatch a technician to assist in resolving the second customer support request by processing the third feature

vector with the dispatch model; selecting a second action from a plurality of possible actions by processing a fourth feature vector with a second analysis model, wherein the second analysis model is the first analysis model or another mathematical model configured to process a feature vector and output values indicating an action to be performed in response to a customer support request, and wherein the fourth feature vector comprises a feature vector for input into a mathematical model, and further comprises the third feature vector or another feature vector; and transmitting to a second person (i) information about the determination not to dispatch a technician to assist in resolving the second customer support request and (ii) information about the selected second action.| 9) A system for presenting information about a resource to a user, the system comprising: at least one server computer comprising at least one processor and at least one memory, the at least one server computer configured to: receive first text of a first customer support request from a first customer, wherein the first customer receives a service from a first company; compute a first feature vector for input into a mathematical model, wherein the first feature vector comprises (i) features computed using the first text of the first customer support request and (ii) features relating to one or more of an operational status of the service, previous customer support requests of the first customer, information obtained from an account of the first customer, or customer support requests received from other customers; determine to dispatch a technician to assist in resolving the first customer support request by processing the first feature vector with a dispatch model, wherein the dispatch model is a mathematical model configured to process a feature vector and output a decision regarding dispatch of a technician; select a first action from a plurality of possible actions by processing a second feature vector with a first analysis model, wherein the first analysis model is a mathematical model configured to process a feature vector and output values indicating an action to be performed in response to a customer support request, and wherein the second feature vector comprises a feature vector for input into a mathematical model, and further comprises the first feature vector or another feature vector; transmit to a first person (i) information about the determination to dispatch a technician to assist in resolving the first customer support request and (ii) information about the selected first action; receive second text of a second customer support request from a second customer, wherein the second customer receives the service from the first company; compute a third feature vector for input into a mathematical model, wherein the third feature vector comprises (i) features computed using the second text of the second customer support request and (ii) features relating to one or more of an operational status of the service, previous customer support requests of the second customer, information obtained from an account of the second customer, or customer support requests received from other customers; determine not to dispatch a technician to assist in resolving the second customer support request by processing the third feature vector with the dispatch model; select a second action from a plurality of possible actions by processing a fourth feature vector with a second analysis model, wherein the second analysis model is the first analysis model or another mathematical model configured to process a feature vector and output values indicating an action to be performed in response to a customer support request, and wherein the fourth feature

vector comprises a feature vector for input into a mathematical model, and further comprises the third feature vector or another feature vector; transmit to a second person (i) information about the determination not to dispatch a technician to assist in resolving the second customer support request and (ii) information about the selected second action.| 17) One or more non-transitory computer-readable media comprising computer executable instructions that, when executed, cause at least one processor to perform actions comprising: receiving first text of a first customer support request from a first customer, wherein the first customer receives a service from a first company; computing a first feature vector for input into a mathematical model, wherein the first feature vector comprises (i) features computed using the first text of the first customer support request and (ii) features relating to one or more of an operational status of the service, previous customer support requests of the first customer, information obtained from an account of the first customer, or customer support requests received from other customers; determining to dispatch a technician to assist in resolving the first customer support request by processing the first feature vector with a dispatch model, wherein the dispatch model is a mathematical model configured to process a feature vector and output a decision regarding dispatch of a technician; selecting a first action from a plurality of possible actions by processing a second feature vector with a first analysis model, wherein the first analysis model is a mathematical model configured to process a feature vector and output values indicating an action to be performed in response to a customer support request, and wherein the second feature vector comprises a feature vector for input into a mathematical model, and further comprises the first feature vector or another feature vector; transmitting to a first person (i) information about the determination to dispatch a technician to assist in resolving the first customer support request and (ii) information about the selected first action; receiving second text of a second customer support request from a second customer, wherein the second customer receives the service from the first company; computing a third feature vector for input into a mathematical model, wherein the third feature vector comprises (i) features computed using the second text of the second customer support request and (ii) features relating to one or more of an operational status of the service, previous customer support requests of the second customer, information obtained from an account of the second customer, or customer support requests received from other customers; determining not to dispatch a technician to assist in resolving the second customer support request by processing the third feature vector with the dispatch model; selecting a second action from a plurality of possible actions by processing a fourth feature vector with a second analysis model, wherein the second analysis model is the first analysis model or another mathematical model configured to process a feature vector and output values indicating an action to be performed in response to a customer support request, and wherein the fourth feature vector comprises a feature vector for input into a mathematical model, and further comprises the third feature vector or another feature vector; transmitting to a second person (i) information about the determination not to dispatch a technician to assist in resolving the second customer support request and (ii) information about the selected second action.

Practice tips and takeaways:	Do not characterize the benefits in terms of controlling human activity. Focus on the technical aspects of the problem and benefits. Even though the claims contained significant technical detail, the panel simply dismissed the additional elements as routine becuase no technical benefit was described in the application. I do wonder if a drone were dispatched if the result would have been different?
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2020002333
Art Unit, Examiner:	3623 Akosua P Kyereme-Tuah
Citations:	[1] Roberts, 2020-002333 at 7-8 (PTAB October 23, 2020). [2] Id. at 10. [3] Id. at 11.
Panelists:	Robert Nappi, Larry Hume, Juliet Mitchell Dirba

Ex parte J. Rogers (Proceeding # 2019001423)

Overview:	US Patent App. No. 15/369,735, Filed December 5, 2016

Appealed 101 rejection of claims 1-12 and 14-21. Rejection was reversed.

PTAB found that claim 1 did not recite abstract ideas in view of the 2019 Revised Guidance. [1]

Discussion:

It was found that "claim 1 recites a machine implemented process of updating media item recommendations displayed on a user interface (a graphical user interface (GUI)), responsive to a user's interaction with (manipulation of) information displayed on the GUI." [2] The Examiner found that claim 1 involved "displaying the results of analyzing collected information" similar to *Electric Power Group* , but the PTAB found that the Examiner did not appreciate how the limitations of claim 1 operate as a whole. In particular, the PTAB found that "A user's interaction with a GUI and updating non-visible information and then displaying it based on the user's interactions is not a mental process that can practically be performed in the mind or using a pen and paper. The instant claims are similar to the claims found to be to be patent-eligible in SRI Int'l. See SRI International, Inc. v. Cisco Systems, Inc., 930 F.3d 1295, 1303–04 (Fed. Cir. 2019)." [3] In conclusion, it was found that Appellant's claim 1 does not recite a judicial exception (USPTO's Step 2A, Prong 1) because claim 1 recites a machine implemented process of updating media item recommendations displayed on a user interface, responsive to a user's interaction with the interface - the recommendation updating process - that cannot be practically performed in the human mind. [4]

Representative claim:

1. A system for updating, on a user interface, recommendations in real-time based on user selection of media item recommendations provided via the user interface, the system comprising:
one or more hardware processors configured by machinereadable instructions to:
[A] receive a user request to add a new concept that is to be learned by a neural network;
[B] cause a set of media item recommendations to be loaded on a user interface for presentation to a user responsive to the user request to add the new concept, the media item recommendation set comprising a set of recommendations loaded on an on-screen portion of the user interface and a set of recommendations loaded on an off-screen portion of the user interface, the on-screen user interface portion being visible to the user at a first time, and the off-screen user interface portion not being visible to the user at the first time;
[C] receive a user selection of one or more recommendations of the on-screen recommendation set;
[D] identify, based on the user recommendation selection, one or more recommendations of the on-screen recommendation set that are not included in the user recommendation selection as recommendations that do not convey the new concept, the identified recommendations not included in the user recommendation selection being recommendations that are not selected by the user;
[E] cause, based on the identified

recommendations not included in the user recommendation selection, the off-screen recommendation set to be updated in real-time on the off-screen user interface portion during the presentation of the media item recommendation set;

[F] cause, based on a user manipulation of the user interface, at least some of the updated off-screen user recommendation set to become visible to the user;

[G] identify, as positive examples of the new concept, based on the user recommendation selection, one or more recommendations of the on-screen recommendation set that are included in the user recommendation selection; and

[H] generate an indication on the user interface that a threshold relating to the neural network has been satisfied, the indication being generated based on a threshold number of positive examples of the new concept being identified during the presentation of the media item recommendation set.

Practice tips and takeaways:	A machine implemented process of updating a graphical user interface responsive to a user's interaction with the interface cannot be practically performed in the human mind.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019001423
Art Unit, Examiner:	2126, LAMARDO, VIKER ALEJANDRO
Citations:	[1] Ex Parte Rogers, p. 7. [2] Ex Parte Rogers, p. 8. [3] Ex Parte Rogers, p. 9 citing SRI International, Inc. v. Cisco Systems, Inc., 930 F.3d 1295, 1303–04 (Fed. Cir. 2019). [4] Ex Parte Rorgers, p. 10-11.
Panelists:	Dixon, Dang, Hughes (Author)

PTAB - Ex Parte Thomas J. Rogers (Proceeding # 2018008284)

Overview: US Patent App. No. 13/920736, Filed June 18, 2013

Appealed 101 and 103 rejections. The 101 rejection was reversed. The 103 rejection was reversed, but new grounds for a 103 rejection were set forth.

The claims are directed to storing data more efficiently by having multiple file entries in a file allocation table index the same clusters on a storage medium.

Discussion: The examiner found the following:

Alice Step 1: the claims are directed to the "general concept of collecting data, normalizing the data, and releasing the data" and to an abstract idea because they recite "steps [which] describe the general concept of collecting data, normalizing the data, and releasing the data which correspond to concept identified as abstract ideas by the courts, such as the Federal Circuit decision in the case [Electric Power Group, LLC v. Alstom S.A., 830 F.3d 1350 (Fed. Cir. 2016)]." [1]

Alice Step 2: "the additional elements when considered both individually and as an ordered combination do not amount to significantly more than the abstract idea" because the "limitations relate[] to generic computer components and amount to mere instruction to implement the abstract idea on a computer." [1]

The Appellant argued says that the claims are not directed to an abstract idea but rather "technical improvements in **a memory** of a storage server." [1]

The PTAB first determined whether any judicial exception was recited. They determined that the claims recite the following limitations, none of which fall within mathematical concepts, organizing human activity, or mental process.

(1) "a storage server comprising a memory,"
(2) "a control circuit operable with the memory,"
(3) "the storage server in communication across a network with one or more client devices,"
(4) "the control circuit to"
(5) "create a file allocation table to organize clusters of a computer readable medium,"
(6) "the file allocation table comprising a plurality of distinguishable file entries,"
(7) "each of the distinguishable file entries indexing clusters of the computer readable medium," and
(8) "at least two of the plurality of distinguishable file entries indexing selfsame clusters of the computer readable medium." [1]

Accordingly, the PTAB reversed the examiner's rejection under 101.

Representative claim:	1. A system, comprising:
	
	   a storage server comprising a memory and a control circuit operable with the memory, the storage server in communication across a network with one or more client devices, the control circuit to:
	
	     create a file allocation table to organize clusters of a computer readable medium;
	
	     the file allocation table comprising a plurality of distinguishable file entries,
	     each of the distinguishable file entries indexing clusters of the computer readable medium;
	
	     at least two of the plurality of distinguishable file entries indexing selfsame clusters of the computer readable medium.

Practice tips and takeaways:	The "directed to" arguments from the examiner and appellant were quite different where the appellant provide more detailed arguments routed in the physical structure and technical improvements to which the claims were directed. Consider integrating the physical structure and technical improvements into arguments.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018008284
Art Unit, Examiner:	2161, Monica M Pyo
Citations:	[1] Ex Parte Rogers, 2018-008284
Panelists:	Courtenay III, Hume, Bennett

Ex Parte Sakahashi (Proceeding #2018006176)

Overview: Applicant Appeal - April 23, 2020

Applicant appealed from a § 101 rejection of claims 1-12, 14 and 16 of US Patent App. No. 15/058,106 and a double patenting rejection of claims 1-9, 11-12, 14 and 16 of the same Application. The Board reversed the Examiner's § 101 rejection of the claims finding that "claim 1 recites a specific improvement in a practical
application" such that "the claimed system permits the combination of a 2D barcode with an image without impacting the utility of the 2D barcode." The Board affirmed the Examiner's non-statutory double patenting rejection.

Technology: The claims are directed to "system for the production, creation, generation, management, and utilization of two-dimensional ("2D") barcodes featuring embedded images". [1]

Discussion: Under Step 2A, prong 1 of the *Alice* test as augmented by the USPTO 2019 Revised Patent Subject Matter Eligibility Guidance (the "USPTO 2019 SME Guidance"), the Board found that the claims are directed to an abstract idea because the claims recite the following limitations that "can be thought of as mathematical manipulation of data (i.e., mathematical concepts)":
"(1) obtaining character string information to be encoded for a 2D code and an image to be encoded in a 2D code;

(2) reducing the obtained character string information;

(3) generating the 2D code having cells by encoding the reduced character string information; and

(4) processing the image to obtain the image with pixels of a same size as each cell of the 2D code." [2]

However, under Step 2A, prong 2, the Board found that claim 1 includes additional limitations that integrates the abstract mathematical concepts of claim 1 into a practical application. [3]   In particular, finding the analysis of claim 1 in this case to analysis of in the Federal Circuits opinions in *McRO* and *Diehr* , the Board stated that claim 1 includes the following additional elements:
"(1) a processor that produces the 2D code with an embedded image; and
 (2) a step of embedding the image of a predetermined size and aligning it in a predetermined location on the 2D code so that the 2D code can be decoded properly." [4]

According to the Board, these additional claim elements represent a technological improvement such that the "claimed system permits the combination of a 2D barcode with an image without impacting the utility of the 2D barcode", resulting in a "practical object" that "can be used in real world applications." [5]

Since the Appellant did not argue the non-statutory double patenting rejection of the claims, the Board affirmed this rejection of the claims.

Representative claim:	1. A system for producing a 2D (2-Dimensional) code with an embedded image for an automated machine generated process, comprising a processor that produces the 2D code with an embedded image by: i) obtaining character string information to be encoded for a 2D code and an image to be embedded in the 2D code; ii) reducing the obtained character string information; iii) generating the 2D code having cells by encoding the reduced character string information; iv) processing the image to obtain the image with pixels of a same size as each cell of the 2D code; and v) embedding the image of a predetermined size and optionally aligning at a predetermined location on the 2D code, wherein the image is of a size and alignment that allows for the code to be decoded properly; wherein the 2D Code is a QR Code. [5]
Practice tips and takeaways:	Patent practitioners should anticipate that any claimed invention based on a improved algorithm or formula may be viewed by an Examiner, PTAB or court as a "mathematical manipulation of data" that falls within a category of abstract ideas. This PTAB decision provides further guidance on providing "specific features" in your patent claims that transform such claims from an ineligible abstract idea directed to mathematical concepts to an eligible "practical application" under Alice step 2A prong 2 . Patent practitioners should also include support in their Specification for each of their "specific features" that explains how such features (alone or in combination) reflect an improvement to the applicable technology and an improvement over other conventional systems/methods.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018006176
Art Unit, Examiner:	2876, Suezu Y. Ellis
Citations:	[1] Ex parte Sakahashi, 2018-006176 at 2 (PTAB April 23, 2020). [2] Id. at 6. [3] Id. at 7-8 [4] Id. [5] Id. at 2-3.
Panelists:	Wilson (author), Range, Ren

Ex Parte Savescu (Proceeding #2018003174)

Overview: Applicant Appeal – April 1, 2019

Applicant appealed Final Office Action rejection of claims 1-14 and 20-25 of Application No. 12/468,616 directed to a creation of a life cycle workflow for a project under 35 U.S.C. 101 as directed to patent-ineligible subject matter.

PTAB Holding: The PTAB upheld the Examiner's 101 rejection. The PTAB found that the claims recited steps that correspond to how people perform project tasks and the claims recite an abstract idea that falls within the Guidance's subject-matter grouping of methods of organizing human activity, and that abstract idea was not integrated into a practical application. The PTAB also found that the claims lacked an inventive concept, as supported by specification statements regarding usage of existing technology for well-known purposes. The PTAB finally found that separate claim 20 was similarly abstract, even though narrowed, as the narrowing did not integrate the abstract idea into a practical application.

Technology: The claims are directed to a method and systems for creating a life cycle workflow for a project. The claims recite creating "workflow stages" on a server corresponding to a specific sequence of workflow activities, creating "workflow phases" on the server corresponding to the stages, creating project detail pages on web pages, and associating the creating workflow stages with the created phases and web pages. [1]

Discussion: The PTAB first found that the steps of the claimed method, including the creation of "workflow stages" and "workflow phases" recite "steps that a person would perform when working on a project" and thus "recites a concept related to managing relationships or transactions between people." [2] The PTAB relied on specification statements regarding the meaning and creation of those terms in making this determination. [3] From this, the PTAB concluded that the claims recited an abstract idea that falls within the "organizing human activity" grouping in the Guidance. The PTAB disagreed with Applicant that the "workflow-stage identifiers" used to track the stages made these steps any less abstract, given that the identifiers are "analogous to the nontechnical human activity of labeling or cross-referencing." [4]

The PTAB next looked to the "additional elements" of the claims and concluded they did not integrate the abstract idea into a practical application. In particular, the PTAB found that the "server" used to store the elements and the additional step of creating a web page with

project details corresponding to each stage "merely add generic computer activity to deliver web pages and store data, which is insufficient." [5] The PTAB stated that the claim does not recite technical improvements as to how the web pages are created. [6]

The PTAB disagreed that the "ordered combination" of the steps of the claims and the improvement of creating a project workflow rendered them eligible, given that a person could similarly create such a workflow and the server/webpage "merely links the abstract idea to a computer environment." [7] The PTAB also disagreed that the server's involvement created a practical application, as "beyond storing the data and creating the web pages, the recited server contributes only nominally and insignificantly to the recited method, which indicates an absence of integration." [8] The PTAB also distinguished from Federal Circuit cases which provided a "technological solution to a technological problem" as the computers involved are used as a tool to automate the process. [9] The PTAB found no evidence of improved efficiency or reduced operating costs for creating virtual workflows, and thus no evidence of improving computer function. [10]

From this, the PTAB likewise concluded there was no "inventive concept" as the "server" and "web page" steps were "well-understood, routine, and conventional" features, relying on Federal Circuit precedent in Interval Licensing and the recitations in the specification regarding the server being generic. [11]

Representative claim: 1. A method for creating a life cycle workflow for a project comprising:

creating one or more identifiable workflow stages for the project on a server computer, each of the one or more workflow stages corresponding to a specific sequence of workflow activities, wherein the creating further comprises using a workflow stage identifier as a property of the specific sequence of workflow activities for each of the one or more workflow stages;

creating one or more identifiable workflow phases for the project on the server computer, each workflow phase includes one or more corresponding workflow stages;

creating one or more project detail pages on the server computer, each project detail page being a web page that is made visible during a corresponding workflow stage;

when a workflow stage is created, associating a workflow phase with the workflow stage, the workflow phase being selected from the one or more workflow phases on the server computer; and

when the workflow stage is created, associating one or more project detail pages for the workflow stage.

Practice tips and takeaways:	1) The "practical application" step may again overlap with the "inventive concept" step. 2) Specifications and claims should carefully integrate technology into the invention and the claims in as specific way as possible to avoid arguments that the technology is too generic or too minimal to become a practical application. 3) Specifications should make clear technological benefits of the invention, as opposed to just economic efficiencies, to provide counter-arguments and support for being a practical application and technological in nature.
Case link:	https://www.uspto.gov/sites/default/files/documents/Ex%20Parte%20Savescu.pdf
Art Unit, Examiner:	3623, Cruz
Citations:	[1] Savescu, 2018-003174 at 2-3 (PTAB April 1, 2019). [2] Id. at 7-8. [3] Id. [4] Id at 9. [5] Id at 9-10. [6] Id at 10. [7] Id at 10. [8] Id at 11. [9] Id. [10] Id at 12. [11] Id at 12-14.
Panelists:	Dixon, Courtenay III, Repko (Author)

Ex Parte Shady (Proceeding #2020001599)

Overview: Applicant appealed from a rejection of US Patent Application No. 15/332,848 claims 1-15 based on 101. Other 103 rejections were appealed but not addressed herein. The Board affirmed the Examiner because the claims are directed to mathematical concepts and mental processes.

Technology: The preamble of independent Claim 1 recites a: "method of calculating an expected success rate for a business entity using a computing device comprising a background analysis engine, a prediction engine, and a display engine, the method comprising." Claim 1 was considered the illustrative claim. [1]

Discussion: The Step 2A arguments by the Appellant included the following two approaches with the Board comments.

(1) "Appellant argues: 'the specificity of the claims guarantees that the Applicant is not seeking a monopoly on the human activity that the Examiner found in the claims.' Appeal Br. 16. Monopolization concerns are subsumed under the Mayo-Alice analytical framework, thus rendering Appellant's argument moot. See Alice, 573 U.S. at 216." [1]

(2) "Appellant contends 'the Specification indicates that the human mind is not capable of performing the level of calculations and determinations that the invention provides.'" The Board responded that "Appellant's citation to their Specification amounts to conclusory statements, unsupported by factual evidence, which are thus entitled to little probative value. See In re Geisler, 116 F.3d 1465, 1470 (Fed. Cir. 1997). Appellant proffers no evidence that the claims could not be performed in the mind with the aid of paper and pencil. " [1]

(3) "Appellant disputes the Examiner's finding that the claims recite a mathematical concept. Reply Br. 2. Appellant argues the claims might involve mathematical concepts, but such concepts are not recited because 'the claims do not recite relationships between variables and numbers, mathematical formulas or equations, or mathematical calculations.' Id." The Board disagreed and stated that "The claims may not recite the low-level mathematical details argued by Appellant. However, as detailed in Table I, we find the claims, nonetheless, recite mathematical concepts." [1]

(4) "Appellant argues: 'the claims recite methods and apparatuses that are significantly more than a mere abstract idea. For example, the claims recite performing algorithms on datasets to generate a quantitative assessment of the expected success of a business entity, which is significantly more than the abstract idea of organizing human activity that formed the basis for the Examiner's rejection.' Appeal Br. 16–17." The Board disagrees stating that "the claimed data-manipulation is simply a field of use that attempts to limit the abstract idea to a particular technological environment. We are unpersuaded by Appellant's arguments because the mere application of an abstract idea in a particular field is not sufficient to integrate the judicial exception into a practical application. See 84 Fed. Reg. at 55, n.32."

Therefore, the Board concluded that the claims were directed to a judicial exception.

The Step 2B analysis was straightforward where the Board points out that the Appellant did not provide specific steps of an algorithm or any Specification for the required specificity to overcome "where the claims simply append well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. Revised Guidance, 84 Fed. Reg. at 56."

The Board maintained the 101 rejection.

Representative claim: 1. A method of calculating an expected success rate for a business entity using a computing device comprising a background analysis engine, a prediction engine, and a display engine, the method comprising:

    receiving, by the background analysis engine, a model dataset and a first dataset;

    acquiring, by the background analysis engine, a second dataset from a plurality of web servers;

    processing, by the background analysis engine running one or more personality analysis algorithms, the first dataset and the second dataset to generate a third dataset comprising data regarding personality attributes of persons associated with the business entity;

    splitting, by the prediction engine, the model dataset into i groups, each of the i groups comprising a training dataset and a testing dataset, using i splitting algorithms, wherein each of the i splitting algorithms generates one of the i groups;

    adjusting, by the prediction engine running m machine learning algorithms, a set of models, wherein the adjusting occurs in response to each of the m machine learning algorithms operating on each training dataset in the i groups;

    testing, by the prediction engine, the set of models using each testing dataset in the i groups and adjusting the second set of models based on the testing;

    generating, by the prediction engine, i merged datasets, wherein each of the i merged datasets comprises the third dataset merged with a different testing dataset from the i groups; and

    processing, by the prediction engine, the i merged datasets to generate $i * m$ ranked lists, each of the ranked lists generated from one of the i merged datasets and one of the m machine learning algorithms and indicating the expected success of the business entity and other entities in the one of the i merged datasets.

Practice tips and takeaways:

(1) Arguing claim specificity overcomes monopolization of an idea was not successful because the Mayo-Alice framework subsums such concerns.

(2) If arguing claim limitations cannot be performed by the human mind with pencil and paper, provide evidence.

(3) Reciting mathematical concepts rather than mathematical formulas is still reciting math and considered abstract.

(4) If arguing significantly more than an abstract idea, provide sufficient detail and reference specific claim limitations that provide the significantly more aspects of teh claim.

Case link: https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2020001599

Art Unit, Examiner: 3624, Sujay Koneru

Citations: [1] Shady, 2020-001599 (PTAB July 31, 2020).

Panelists: Courtenay III, Evans (Author), McNeill

Ex Parte Singh (Proceeding # 2019003139)

Overview: US Patent App. No. 14/283,254, Filed May 21, 2014

Appealed from Examiner's decision to reject claims 1-6, 8, 9, and 11-22 as being directed to patent-ineligible subject matter under 35 U.S.C. 101. Rejection was affirmed.

Claims were found to recite a mental process.

Discussion: PTAB found that claim 1 recites interpreting natural language instructions and generating a programmatic interpretation of the instructions, albeit for execution over tabular data. PTAB found that the "[t]he human mind, however, is fully capable of generating a computer-executable program that is to be executed over tabular data based upon natural language voice input. That is a human can listen to natural language instructions (i.e., receive a natural language query) and generate a programmatic interpretation of the instructions (i.e., a program believed to perform the requested task). [1]

They further concluded that "[c]laims can recite a mental process even if they are claimed as being performed on a computer." [2]

PTAB did not find arguments pursuasive that there were additional recitations that integrated the abstract idea into a practical application. Appellant tried to argue that a recent Federal Circuit case indicated that "claims directed towards electronic spreadsheet applications are eligible for patenting, so long as the claims are directed towards a specific solution to conventional problems in prior art spreadsheet applications."[3] However, the PTAB disagreed and indicated that the claimed invention did not improve the functioning of a computer or another technology or technical field. The PTAB reminded the Appellant that a claim is not patent-eligible merely because it recites new or non-obvious functionality. [4]

Under Step 2B, the PTAB indicated that the specification's broad disclosure of suitable automated speech recognition systems is at a high level that shows that suitable technologies were well-understood, routine, or conventional. [5]

Judge Evans dissents and explains that the claims integrate the judicial exception into a practical application because the claimed voice user interface is directed to a specific improvement to the way computers operate. [6]

Representative claim:	1. A computing device comprising: a processor; and memory that comprises an application that is executed by the processor, the application has tabular data loaded therein, the tabular data comprises a modifiable text string in a cell of column of the tabular data, wherein the processor, when executing the application in the memory, performs acts comprising; responsive to receiving voice input in the form of a natural language query, receiving a transcription of the natural language query, wherein the natural language query includes the modifiable text string in the column of the tabular data; constructing a program based upon the transcription of the natural language query, wherein the program, when executed by the processor, is configured to perform a computing operation with respect to content of a second cell in the column; and executing the program to perform the computing operation.
Practice tips and takeaways:	Although the claim may recite "a computing device" this is not enough to make the argument that the claim does not recite a mental process. In addition, this case shows that the panel of judges truly matters. The dissent makes sense but there were two judges that disagreed.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019003139
Art Unit, Examiner:	Art Unit 2659, Examiner Fariba Sirjani
Citations:	[1] Ex Parte Singh, p. 6. [2] Ex Parte Singh, p. 7 citing to MPEP 2106.04(a)(2)(III)(C) [3] Data Engine Technologies LLC v. Google LLC, 906 F.3d 999, 1008 (Fed. Cir. 2018). [4] Ex Parte Singh, p. 10. [5] Ex Parte Singh, p. 14. [6] Ex Parte Singh, Dissent, p. 11.
Panelists:	Morgan (Author), Katz, Evans; Dissent Evans

Ex Parte Smith (Proceeding #2018000064)

Overview: Applicant Appeal – February 1, 2019

Applicant appealed Final Office Action rejection of claims 1-6 of Application No. 13/715,476 directed to a method of trading derivatives in a hybrid exchange system under 35 U.S.C. 101 as directed to patent-ineligible subject matter.

PTAB Holding: The PTAB reversed the Examiner's 101 rejection. The PTAB found that the claims contained a fundamental economic practice of trading derivatives. The PTAB also found that, while the computer-related limitations were insufficient, the limitations that addressed problems arising from a hybrid electronic/paper derivatives system did integrate the abstract idea into a practical application.

Technology: The claims are directed to a method for trading derivatives in a hybrid exchange system, including collecting orders via a network, identifying quotes matching the orders, and using a timer to delay execution of the order, and then receiving additional quotes matching the order and dividing the order between the different participants upon expiration of the timer. [1]

Discussion: The PTAB first found under the Guidance that the claims contain various limitations regarding collecting and executing orders for derivatives, which "recite the fundamental economic practice of derivative trading because the limitations all recite the operations that would ordinarily take place in a derivatives trading environment." [2] The PTAB found that the limitations of collecting orders, identifying quotes, and fulfilling trades are basic concepts of derivatives markets and akin to the "intermediated settlement" concept found abstract in Bilski. [3]

The PTAB then turned to the "practical application" analysis under the Guidance and first found that the "computer-related limitations" including a "hybrid exchange system," "communications network and order-routing system," an "electronic trade engine," an "electronic book database," and an "electronic reporting statement" were insufficient. While the limitations were not "wholly generic in nature and are specific to electronic derivatives trading, they are described at a high level in the Specification without any meaningful detail about their structure and integration." [4]

However, with respect to the remaining limitations, the PTAB found that "additional limitations which focus on addressing problems arising in the context of a hybrid derivatives trading system" did "integrate the recited judicial exception of derivative trading into a practical application." [5] In particular, these limitations including delaying automatic execution of orders using a timer, receiving additional matching quotes, and allocating orders between the two quotes. The PTAB found these limitations "limit the conventional practice of automatically executing matching market orders by reciting a specific timing mechanism" that then "allows for other matching orders to be received." [6]

The PTAB also relied on the specifications description of the purpose and advantage of such a system in encouraging new quotes and removal of communication advantage among market participants as providing a technological improvement over prior systems. [7] The majority disputed a dissent's claim that this improvement was non-technological by emphasizing that the timer is implemented in the specific hybrid trading environment and solves a problem arising in those markets. [8] Based on the claim being a practical application of the idea, the PTAB reversed the rejection.

The dissent to the decision disagreed that the timing mechanism rendered the claims a practical application under Prong Two, finding that delay between matching and placing market orders is present in any market, electronic ordering is already well-known, and the timer does not present a technological solution to a technical problem. [9]

Representative claim: 1. A method of trading derivatives in a hybrid exchange system comprising:

collecting orders, via a communication network and order routing system, for derivatives and placing them in an electronic book database;

identifying at an electronic trade engine a new quote from a first in-crowd market participant, wherein one of a bid or an offer price in the new quote matches a respective price in an order in the electronic book database from a public customer;

removing at least a portion of the order in the electronic book database, delaying automatic execution of the new quote and the order, and starting a timer;

reporting, via the communication network and an electronic reporting system, a market quote indicative of execution of the at least a portion of the order while delaying automatic execution;

receiving at the electronic trade engine a second quote from a second in-crowd market participant after receiving the new quote from the first in-crowd market participant and before an expiration of the timer, wherein the second quote matches the respective price of the public customer order in the electronic book database; and

allocating the order between the first and second in-crowd market participants at the electronic trade engine, wherein the order is not executed until expiration of the timer.

Practice tips and takeaways:

1) The "practical application" step can obviate the need to deal with any "well-known technology" concerns under Step 2 of Alice.

2) Include multiple "specific features" in your claims that focus on the "problems" of the system or environment that your claim is directed, which can help support a "practical

application" finding.

3) Recitations of advantage over the prior art, including tying those advantages to technology and to the claims, are key in finding a practical application.
In Ex parte Smith, the PTAB found certain features routine but other additional specific features were sufficient to support a "practical application" finding.

Case link: https://www.uspto.gov/sites/default/files/documents/fd2018-000064.pdf

Art Unit, Examiner: 3696, Nguyen

Citations: [1] Smith, 2018-000064 at 2 (PTAB February 1, 2019).
                      [2] Id. at 7-8.
                      [3] Id.
                      [4] Id at 8.
                      [5] Id at 8-9.
                      [6] Id.
                      [7] Id at 9.
                      [8] Id at 9-10.
                      [9] Id at 15.

Panelists: Bui (Dissent), Barry, Bennet (Author)

Ex parte Taylor (Proceeding # 2019002052)

Overview: US Patent App. No. 15/477,844, Filed April 3, 2017

Appealed 101 rejection of claims 1-21. Rejection was reversed.

PTAB found that the claims do not recite an abstract idea such as a mathematical concept or any other judicial exception under Step 2A, Prong 1. [1]

Discussion: The Examiner found that the claimed steps recited a mathematical algorithm or concept but the PTAB disagreed. In particular, the PTAB noted that "claim 1 recites a process that uses algorithms to analysis (sic) video and audio data to train a classification model that is then used to analyze additional data to detect potential bias by human evaluators. While this process involves the use of mathematical concepts (e.g., to extract video and audio indicators, generated combined vector representations, and train the classification model), claim 1 does not itself recite any mathematical relationship, formula or calculation such that it could be deemed to recite a judicial exception." [2] The PTAB found that claim 1 was similar to the hypothetical claim in Example 39 (Method for Training a Neural Network for Facial Detection) of the Office's Guidance. [3] The creation of a training set in the claim of Example 39 is analogous to the generation of the "combined vector representaiton" in Appellant's claim 1, where the neural network in Example 39 is akin Appellant's claimed "classification model." While some of the limitations are based on mathematical concepts, the mathematical concepts are not recited in the claims. In addition, the claim does not recite a mental process because the steps are not practically performed in the human mind. [4]

Representative claim:	1. A method comprising: retrieving, by a human bias detection tool executed by a computing device of a digital interviewing platform, evaluation data from a data storage device, the evaluation data generated with respect to a set of evaluators who evaluated recorded video responses of first candidates to questions asked during a hiring process; performing, by the human bias detection tool, video analysis on video frames of the video responses to identify visual indicators of faces of the first candidates, wherein the visual indicators comprise one or more facial features; generating a combined vector representation of the first candidates by combining, by the human bias detection too, the visual indicators with an audio indicator that further characterizes respective first candidates; performing, by the human bias detection tool, supervised learning of the combined vector representation of the first candidates with respect to one or more classifications of the first candidates, to train a classification model; classifying second candidates according to a protected class by applying, by the human bias detection tool, the classification model to second indicators captured by the second candidates, wherein the second indicators comprise one or more of a second visual indicator or a second audio indicator of respective second candidates; determining, by the human bias detection tool, that evaluation data for the second candidates indicates a disparate impact of one or more evaluators of the set of evaluators with respect to classifications of the second candidates according to the protected class; generating, by the human bias detection tool, first data including a notification of determination of the disparate impact of the one or more evaluators; and transmitting the first data to a second computing device of a supervisor, the first data to cause a user interface of the second computing device to display a first graphical user interface (GUI) element containing the notification.
Practice tips and takeaways:	Remember to analogize a claim to the Subject Matter Eligibility Examples and if possible make arguments that the claim cannot be practically be performed in the human mind.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2019002052

Art Unit, Examiner: 3629, LINDSEY III, JOHNATHAN J

Citations: [1] Ex Parte Taylor, p. 6.
                      [2] Ex Parte Taylor, p. 6-7.
                      [3] Subject Matter Eligibility Examples: Abstract
                      Ideas, 8–9, available at https://www.uspto.gov/sites/default/files/documents/
                      101_examples_37to42_20190107.pdf.
                      [4] Ex Parte Taylor, p. 7.

Panelists: Schneider, Flax, Valek

Ex Parte Tetyana Vdovina et al. (Proceeding # 2018008880)

Overview: US Patent App. No. 14/922276, Filed October 26, 2015

Appealed 101 rejection over claims 1 and 3-16. The 101 rejection over claims 1 and 3-14 were affirmed, while the 101 rejection over claims 15 and 16 was reversed.

The claims are directed to seismic data containing multiple reflections and generating a multiple free data set for use with conventional seismic processing. [1]

Discussion: The Appellant presented arguments to claims 1, 11, 15, and 16.

Regarding claim 1, the examiner stated that the steps of the claim constitute mathematical concepts. The PTAB agreed, with a detailed analysis of each claimed step, that each step is a mathematical concept or mental process. The PTAB analysis relies heavily on the description of each step in the specification and the use of mathematical formulas to describe how to achieve each step. At Step 2A, the Examiner and PTAB agree that the steps detailed in Step 1 of the analysis are performed with a computer and generic processor. At Step 2B, the Examiner and PTAB agree that no additional limitations are in claim 1 that would go beyond the mathematical concepts and mental process. [1]

Claim 11 is dependent from claim 1 and adds a limitation directed to the details of the characteristics of the data resulting from the data analysis. The Examiner and PTAB agree that this includes no further additional elements that are significantly more than the previously detailed mathematical concepts and mental process. [1]

Claims 15 depends from claim 1. Claim 15 adds the active step of "forming and displaying, with a computer, a seismic image of the subsurface region, wherein the seismic image identifies a location of structure in earth's subsurface that returned seismic waves to receivers that recorded the input seismic data." [1] Claim 16 depends from claim 15 and recites "causing a well to be drilled based on the seismic image." [1] The Examiner believes that these limitations are insignificant extra-solution activity, such as outputting and applying the result of the claimed algorithm, to perform an activity which is well-known in the art, recited at a high level of generality and/or in a well-understood, routine, and conventional way. However, the PTAB states that the elements of claims 15 and 16 impose a meaningful limit on the mathematical concepts and mental process (abstract ideas) of claim 1 in a manner that integrates the mathematical concepts and mental process into a particular practical application. Therefore, the 101 rejection over claims 15 and 16 were reversed. [1]

Representative claim:	1. A method, comprising:

   performing, with a computer, a first full wavefield inversion process on input seismic data that includes free surface multiples, wherein the first full wavefield inversion process is performed with a free-surface boundary condition imposed on a top surface of an initial subsurface physical property model, and the first full wavefield inversion process generates a final subsurface physical property model;

   predicting, with the computer, subsurface multiples with the final subsurface physical property model;

   wherein the method further includes,
     (a) removing, with the computer, the predicted subsurface multiples from the input seismic data and preparing multiple-free seismic data, and performing, after the removing, a second full wavefield inversion process on the input seismic data with the predicted subsurface multiples removed therefrom, wherein the second full wavefield inversion process is performed with an absorbing boundary condition imposed on the top surface of an initial subsurface physical property model, and the second full wavefield inversion process generates a multiple-free final subsurface physical property model, or
     (b) performing, with the computer, a second full wavefield inversion process on the input seismic data, wherein the second wavefield inversion process uses an objective function that only simulates primary reflections, the objective function being based on the predicted subsurface multiples, and the second full wavefield inversion process generates a multiple-free final subsurface physical property model; and using the multiple-free final subsurface physical property model as an input to an imaging or velocity model building algorithm, or in interpreting a subsurface region for hydrocarbon exploration or production. |
Practice tips and takeaways:	Appeal more than just the independent claims. Include in the claims (or at least explicit support in the specification for adding claims later) that are active limitations that integrate abstract ideas into a practical application.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018008880
Art Unit, Examiner:	2894, Brian Turner
Citations:	[1] Ex Parte Vdovina, 2018-008880
Panelists:	Robertson, Braden, Inglese

Ex Parte Vela (Proceeding #2017009796)

Overview: Application Number 13/656,856, filed 10/22/2012. Appellants appeal final rejection of claims 1-20. Claims 1–20 are rejected under 35 U.S.C. § 101 as directed to a judicial exception without significantly more. [1]

Discussion: Step 1: Claim 1 is a method claim having several steps, which falls within the "process" category of 35 U.S.C. § 101. Claim 11 is a computer readable medium claim, which falls within the "manufacture" category of 35 U.S.C. § 101.

Step 2A, Prong 1: These steps cover linear regression together with subsequent additional mathematical calculations, and are thus a combination of "mathematical relationships, mathematical formulas or equations, mathematical calculations."

Step 2A, Prong 2: In finding a practical application, the PTAB stated: "Put another way, correcting the data and applying the corrected data to the forecast model is not abstract in the same way as the other claim recitations. Moreover, these additional limitations also provide a "technological solution to a technological problem," MPEP § 2106.05(a) because they recite a specific solution to the technical problem of anomalous data points and their deleterious effect on the forecast model and resultant network resource utilization."

"We conclude these limitations integrate the recited judicial exception of a mathematical concept into a practical application. Under the guidance, a judicial exception may be integrated into a practical application where it provides "an improvement to . . . any other technology or technical field." MPEP § 2106.05(a). Here, these additional limitations provide an improvement to the technical field of operating mobile networks by allowing network operators to better forecast potential network problems using corrected data sets."

The case was eventually allowed by the USPTO.

Representative claim:	1. A method for rendering, by a computerized mobile wireless data network performance parameter forecasting system, a forecast for a mobile wireless network performance parameter, the method comprising the steps of:
	acquiring, via a communications network infrastructure for the mobile wireless network, a raw data point set containing a series of data point values for the mobile wireless network parameter;
	correcting, by the computerized mobile wireless data network performance parameter forecasting system, the raw data point set, the correcting comprising a set of sub-steps, executed by the computerized forecasting system, of:
	performing a first linear regression on the raw data point set to render an initial best fit line, calculating a current series of data point residuals based upon:
	a current best fit line, the current best fit line being in a first instance the initial best fit line, and a current series of data point values, the current series of data point values being in a first instance the raw data point set, decomposing the current series of data point residuals into a current set of seasonal data point residual subsets, performing a boxplot analysis on the current set of seasonal data point residual subsets to identify individual anomalous point residuals to render a current set of anomalous data point residuals, correcting the current set of anomalous data point residuals to render a corrected data point residual set, and applying the corrected data point residual set to the current best fit line to render a current corrected data point set; and
	applying the current corrected data point set to a forecast model to render a forecast for the mobile wireless network performance parameter.

Practice tips and takeaways:	Here, the PTAB focused on the fact that improvement to any techincal field woudl satisfy Step 2A, Prong 2. It appears that language in the specificadtion articulating improvement to to a technical field, even if different than the primary field would be beneficial to overcoming such a rejection.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2017009796
Art Unit, Examiner:	Art Unit: 2618; Examiner: ROBINSON, TERRELL M
Citations:	[1] Ex parte MARIO VELA, et al., Appeal 2017-009796 (PTAB)
Panelists:	Before JEREMY J. CURCURI, JUSTIN BUSCH, and PHILLIP A. BENNETT, Administrative Patent Judges. Opinion for the Board filed by JEREMY J. CURCURI. Opinion Dissenting filed by JUSTIN BUSCH.

Ex parte Wallach (Proceeding # 2018006993)

Overview: US Patent App. No. 11/464,143, Filed August 11, 2006.

Appealed 101 rejection. Rejection was affirmed.

Appellant tried to argue that the claim recited a neural network and this made the claim patent eligible subject matter but it was found that it was merely a generic neural network.

Discussion: PTAB agreed with the Examiner that claim 16's limitations, under their broadest reasonable interpretation, recite detecting fraud in credit card transactions by comparing new and stored information. Thus, it was found that the detection was a fundamental economic principle or practice, which falls within the certain method of organizing human activity category of abstract ideas set forth in the Revised Guidance. [1] [2] It was also found that certain steps could be performed in the human mind.

Under Step 2A, Prong 2, the Appellant attempted to argue that the claim was directed to an improvement to technology because the claim enhances the functioning of the computer itself by improving the computer's ability to learn and evaluate the data flow in transactional patterns with improved speed and accuracy. [3] However, the PTAB found that the improvements were not related to improved neural networks or other technologies but to advantages achieved by the abstract idea itself. In particular, the PTAB noted that "the claimed 'neural network' is a generic neural network." [4]

It was further found that the features were generic, routine, conventional in the Step 2B analysis. [5]

Representative claim:	16. A method for screening transactions comprising: providing a security center having: (1) a user security parameter system in communication with a user security parameter management system, the user security parameter management system having a user security parameter module and a graphical user interface; and (2) a secondary security system comprising a neural network for receiving an alert to learn a pattern of legitimate transactional behavior, comport with adjusted user security parameters, and in communication with a transaction processing system and for receiving an alert to learn a pattern of legitimate transactional behavior, setting a user security parameter by a user security parameter management module with a graphical user interface through a user instruction before processing any transactions; acquiring the security parameter from the user and storing it in a user security parameter database; permitting the secondary security system to learn a pattern of legitimate transactional behavior, adjusting the user security parameter for a predetermined period of time by specifying an action by the user; improving determination of whether a transaction is fraudulent or non-fraudulent based on the adjusted user security parameter; evaluating the transaction by a user security parameter system by comparing the adjusted user security parameter to a transaction parameter associated with a pending transaction at a user security parameter module; analyzing the transaction parameter with a neural network designed to comport with adjusted user security parameters; determining at the user security parameter module whether the transaction is fraudulent or nonfraudulent based on the comparison; determining at the user security parameter module whether to process the pending transaction; and sending an electronic notice to the user.
Practice tips and takeaways:	Even if the claim recites "a neural network," if this is not defined in the claim or specification, it will not be enough to overcome a 101 rejection. If the Applcant specified how the neural network was trained this may have helped.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2018006993
Art Unit, Examiner:	Art Unit 3685, Examiner Zeshan Qayyum

Citations: [1] Ex Parte Wallach, p. 8-9.
                    [2] 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed.
                    Reg. 50 (Jan. 7, 2019)
                    [3] Ex Parte Wallach, p. 11.
                    [4] Ex Parte Wallach, p. 12.
                    [5] Ex Parte Wallach, p. 13.

Panelists: Hughes, McNeill (Author), Repko

Ex Parte Wolfe (Proceeding #2020002252)

Overview: U.S. Application Number 16/119,046, filed 8/31/2018. Appeal of final rejection of claims 1-20 under 35 USC 101. The application is directed to debt resolution planning including an accelerated charge off plan.

Discussion: Step 1: Assumed Met

Step 2A, Prong 1: Claim 1 sets forth a method for debt resolution by determining plan parameters for an accelerated charge off plan.   Such debt resolution includes forms of mitigating risk and commercial or legal interaction.   Under the 2019 Guidance, "fundamental economic principles or practices (including hedging, insurance, mitigating risk)" and "commercial or legal interactions (including agreements in the form of contracts; legal obligations . . .)" are identified as certain methods of organizing human activity, and thus, an abstract idea. A[n] improvement to the information stored by a database is not equivalent to an improvement in the database's functionality.

Step 2A, Prong 2: The claimed invention does not effect a transformation or reduction of a particular article to a different state or thing. Nor do we find anything of record that attributes an improvement in computer technology or functionality to the claimed invention or that otherwise indicates that the claimed invention "appl[ies], rel[ies] on, or use[s] the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.

Step 2B: Claim 1 amounts to nothing significantly more than an instruction to apply the abstract idea using a generic device performing routine computer functions. That is not enough to transform an abstract idea into a patent eligible invention.

Representative claim: 1. A method, comprising:

receiving, by a device, a request for information regarding a debt resolution plan available for a delinquent account,

wherein the request includes:

a first input indicating a payment amount,

a second input indicating a payment frequency, and a third input indicating a payment start date;

obtaining, by the device, account data associated with the delinquent account;

determining, by the device and using a machine learning model, a score for the delinquent account based on the first input, the second input, the third input, and the account data,

the machine learning model being trained to receive the first input the second input, the third input, and the account data and produce, as output, the score, and wherein the score predicts a likelihood that a creditor associated with the delinquent account will charge off the delinquent account within a predetermined time period;

determining, by the device, a plurality of plan parameters for an accelerated charge off plan when the score satisfies a threshold, the accelerated charge off plan specifying a charge off time, prior to an end of the predetermined time period, at which the delinquent account will be proactively charged off, and wherein the plurality of plan parameters include:

a first parameter indicating a repayment amount, a second parameter indicating a repayment frequency, and

a third parameter indicating a repayment start date;

transmitting, by the device, the plurality of plan parameters associated with the accelerated charge off plan;

receiving, by the device, an enrollment request based on transmitting the plurality of plan parameters;

enrolling, by the device, the delinquent account in the accelerated charge off plan based on receiving the enrollment request; and

performing, by the device, one or more actions based on enrolling the delinquent account in the accelerated charge off plan.

Practice tips and takeaways:	Machine learning, by itself, is not enough to overcome a 101 rejection. Need to add specific details regarding how the functioning of the computer is improved into the specification, if not the claims.
Case link:	https://developer.uspto.gov/ptab-web/#/search/documents?proceedingNumber=2020002252
Art Unit, Examiner:	Art Unit: 3694; Examiner: SHAIKH, MOHAMMAD Z
Citations:	[1] Ex parte JEFFREY WOLFE, et al., Appeal 2020-002252 (PTAB Sept. 2, 2020)
Panelists:	Before JOSEPH A. FISCHETTI, BRUCE T. WIEDER, and AMEE A. SHAH, Administrative Patent Judges.

Ex Parte Zhang (Proceeding #2018004206)

Overview:	Application 11/856,109 filed 9/17/2007. Claims 10–14 and 24–28 are rejected under 35 U.S.C. § 101 as being directed to a judicial exception, without significantly more. Appellants' invention relates to object detection in digital images using a probability mechanism, including identifying and manipulating a digital representation of the detected object. In one aspect, the probability mechanism is trained to detect lymph nodes depicted in image data.
Discussion:	Step 1: Not Specifically discussed. Directed to a Method.
	Step 2A, Prong 1: The claimed invention recites steps directed to a mental process, as a concept related to organizing or analyzing image data that can be performed mentally.
	Step 2A, Prong 2: Appellants argue "[d]etection of objects in a CT volume by processing the CT volume using a PBCT that classifies voxels of the CT volume as positive or negative is not an abstract idea" (App. Br. 4) because "[d]etecting objects in CT volume data using a probabilistic boosting cascade tree (PBCT) is functional and palpable application in the field of computer and medical imaging technology with a concrete and tangible result." (App. Br. 7). However, claim 10 does not require "detecting objects," but merely recites processing image data using a PBCT algorithm for the intended purpose "to detect one or more objects."
	Step 2B: Conclusory statement affirming Examiner's position.
Representative claim:	10. A method for detecting objects in CT volume data using a probabilistic boosting cascade tree (PBCT), comprising:
	receiving an input CT volume;
	processing said input CT volume using a PBCT having a plurality of nodes to detect one or more objects in said input CT volume, wherein said PBCT comprises at least one tree node, at least one cascade node, and a plurality of leaf nodes, wherein each of said at least one tree node, said at least one cascade node, and said plurality of leaf nodes classifies voxels of the input CT volume as positive or negative, wherein said at least one cascade node has a single child node for further classifying voxels classified as positive by said at least one cascade node, wherein voxels classified as negative by said at least one cascade node are discarded without being passed to a leaf node, and wherein said at least one tree node has a first child node for further classifying voxels classified as positive by said at least one tree node and a second child node for further classifying voxels classified as negative by said at least one tree node.
Practice tips and takeaways:	It appears that if the claims recite "detecting," the decision could have been different.