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Alice in Wonderland: Part Three

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This article adds to the two-part series published by the *Intellectual Property & Technology Law Journal* in August and September 2018.[1] This third article continues the analysis of decisions by the U.S. Court of Appeals for the Federal Circuit relating to computer software eligibility following *Aatrix Software, Inc. v. Green Shades Software, Inc.*[2] It also includes a brief review of the U.S. Patent and Trademark Office (USPTO or PTO) guidelines (Guidelines) concerning subject matter eligibility[3] and a short review of pertinent literature on this topic.

UNITED STATES PATENT AND TRADEMARK OFFICE GUIDELINES AND THE PATENT TRIAL AND APPEAL BOARD

While the USPTO Guidelines are the primary source of guidance for patent examiners, the Federal Circuit as well as lower courts have held that the PTO Guidelines have no precedential authority, and applicants should not rely on them when enforcing their claims in court.[4] Accordingly, while understanding the USPTO Guidelines is helpful in terms of anticipating and understanding the motivation of patent examiners, it is also important to have a firm grounding on current caselaw to navigate patent claim subject matter eligibility-related enforcement issues and respond to PTO rejections. This review therefore only briefly summarizes the Guidelines but provides a more in-depth review of Federal Circuit guidance.

The USPTO released and revised its comprehensive its Guidelines multiple times since the 2014 *Alice*[5] decision. The latest version of the Guidelines was updated in Summer 2022 and can be found in the Manual of Patent Examining Procedure (MPEP). Accordingly, the MPEP does not include a few recent Federal Circuit cases discussed in this article.

Briefly, the Guidelines define the test for subject matter eligibility differently than the *Alice*[6] two-step test by dividing the eligibility test into Steps 1, 2A and 2B. Under the Guidelines, Step 1 requires a determination by the examiner whether or not the claimed subject matter falls within the four statutory categories delineated under 35 USC §101, i.e., whether the claim recites a machine, process, manufacture, or composition of matter.[7] If one of those categories is contained in the claims, then the claim is further analyzed under Step 2A, which is subdivided into two prongs: In Prong 1, the claim is evaluated to see whether it recites an abstract idea, law of nature, natural phenomenon, or other previously established judicial exceptions to subject matter eligibility. If the answer is yes in Prong

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1, the Guidelines proceed to Prong Two where the examiner must determine whether the claim recites additional elements that integrate the judicial exception into a practical application. Finally, if step 2A, Prong 2 is answered in the negative, then the examiner proceeds to Step 2B to determine whether or not an "inventive concept" is furnished by an element or combination of elements recited in the claim in addition to (beyond) the judicial exception and is sufficient to ensure that the claim as a whole amounts to significantly more than the judicial exception itself.[8]

In addition to only briefly summarizing the Guidelines, this article does not separately analyze decisions on subject matter eligibility by the US Patent & Trademark Office Board of Appeals (PTAB). It is, however, worth mentioning a recent article concerning how the PTAB has been dealing with Section 101 appeals. In "Why PTAB Step 2B Reversal Rates Are Falling," Michael Shepard published a chart summarizing numerous PTAB 101 cases where he notes a dramatic downward trend in Step 2B reversals after the USPTO Memorandum on the *Berkheimer* decision. As we noted previously in this journal, *Berkheimer*[9] required that examiners support their subject matter eligibility rejections with a finding of fact backing up their conclusions that the claim elements were merely routine and conventional. *Berkheimer* provided a basis for challenging unsupported conclusions by the examiner that the claims recite conventional use of hardware. More critically, *Berkheimer* also can support a challenge to such a conclusion by the examiner even when the examiner does cite to prior art. The Shepard article analyzed a large number of PTAB decisions and concluded that the PTAB circumvents the impact of *Berkheimer* by only looking at the generic computing elements recited in the claims on appeal. In other words, the PTAB separates out any elements belonging to the alleged abstract idea when determining whether or not the claim contains any unconventional elements that transform the claim into a patent eligible invention per *Alice*, Step2B. By "splicing the claim this way," the article concludes, the PTAB "guarantees a step 2B [rejection] affirmance every time." Whether or not this faulty approach to *Berkheimer* will be remedied by the PTO or by the Federal Circuit remains an open question. For practitioners, it is therefore important to place your case in the best condition to pass muster under Step 1 of *Alice*, or Step 2A, Prongs 1 & 2 of the Guidelines.

FEDERAL CIRCUIT CASES FINDING SUBJECT MATTER ELIGIBILITY

Since *Aatrix* the Federal Circuit has upheld subject matter eligibility in at least 14 decisions, and we provide a brief analysis (arranged by time) in an effort to inform practitioners more fully on the range and types of cases the PTO should allow as well as provide a basis beyond the PTO Guidelines for practitioners to rely on in arguing in support of patent eligibility. Although a lot has been written about the *en banc* decision by the Federal Circuit in *American Axle & Manufacturing, Inc., v. Neapco Holdings LLC.*,[10] the Federal Circuit rejected all of the claims at issue as being subject matter ineligible. Also, the July 2022 decision by the U.S. Supreme Court to deny a writ of certiorari means that the Federal Circuit's refusal to allow claims under Section 101 stands. Finally, *American Axle* does not involve computer software, or an analysis of the abstract idea standard (such as it is). We therefore do not discuss *American Axle* here.

Ancora Technologies, Inc. v. HTC America, Inc., 908 F.3d 1343 (Fed. Cir. 2018)

Ancora involves a method for protecting computers from being hacked by storing authorized program license information in the computer's BIOS memory. The claimed technique improves over the prior art which stored such information in the computer's ROM or erasable memory in order to enable the computer to verify whether a program is licensed/authorized. By storing the license verification information in the BIOS memory, the computer is harder to hack.

Claim 1 of *Ancora* recites:

> A method of restricting software operation within a license for use within 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 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.

Procedurally, *Ancora* presents an interesting scenario. The court noted that HTC had filed a request for a Covered Business Method (CBM) post-grant review with the PTO. The PTAB rejected HTC's request concluding that the claims recited a technical solution to a technical problem. Disputing the PTAB's conclusion, the district court granted HTC's motion to dismiss ruling that the claims were indeed abstract under *Alice* Step 1 since the claims invoked the computer merely as a tool and that the claims also failed *Alice* Step 2 since specifying storage in the BIOS called for nothing more than storing data in an area of computer memory that generally stores data.[11] The Federal Circuit disagreed and reversed.

In its reversal, the court first reiterated that it has held in cases such as *Enfish*[12] and *Visual Memory*,[13] that computer software alone can involve non-abstract improvements to computer technology. Citing to the PTA7B's CBM conclusion the panel then determined that the claimed method specifically identifies how improved computer functionality 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."[14] While the record at the PTAB made *Ancora* somewhat distinct, the court took pains to understand how the use of BIOS memory led to unexpected advances in the efficiency and safety of computer use.

For practitioners, the best way to ensure your case therefore passes muster is to take great care to include in the specification's details regarding how improved uses of conventional computing components create significant advantages over the prior art and improve the functionality of computer hardware.

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

The patents at issue in *Data Engine* involve a method for implementing a notebook-tabbed interface which includes both user-familiar objects (i.e., paradigms of real-world objects that the user already knows how to use – such as notebook tabs) and a highly intuitive three-dimensional user interface.

Representative claim 12 of one of the patents at issue is set forth below:

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.

Writing for the panel, Judge Chen compared claim 12 favorably to the detailed specificity of the claims in *Core Wireless*[15] and upheld the patent's subject matter eligibility. Specifically, he noted that the claims recited with precision the technical solution and improvement in computer spreadsheet functionality. The opinion then elucidated how claim 12 recites steps detailing the method of navigating through spreadsheet pages within a three-dimensional spreadsheet environment using notebook tabs. Further, he reasoned that claim 12 recites several detailed technical features: displaying a row of spreadsheet page identifiers along one side of the first spreadsheet page, with each spread-sheet page identifier being a notebook tab; at least one user-settable identifying character to label the notebook tab and how to navigate through the various spreadsheet pages by selection of the notebook tabs; and a formula that uses the identifying character to operate on information spread between different spreadsheet pages that are identified by their tabs.

From these details, the court distinguished the *Data Engine* claims from those cases in which claims were held to be subject matter ineligible. The court noted that Data Engine's claimed method does not recite the general idea of navigating through spreadsheet pages using buttons or a generic method of labeling and organizing spreadsheets. Rather, claim 12 requires a specific interface and implementation method for navigating complex three-dimensional spreadsheets using techniques unique to computers – i.e., technology that improves the functionality of the computerized spreadsheets.

For practitioners, Data Engine illustrates a scenario where claims that mainly incorporate conventional features or steps, such as the use of notebook tabs, can pass §101 muster so long as the steps include sufficient technical detail that cover the essence of what is unconventional over the prior art. While this may initially result in the allowance of relatively narrow claims, many practitioners take the approach of working backwards – i.e. gradually broadening the claim scope in continuation applications once the subject matter eligibility (and prior art) hurdles are overcome during prosecution of the narrower claims.

Koninklijke KPN (KPN) v. Gemalto M2m et al., 942 F.3d 1143 (Fed. Cir. 2019)

The claims of the *KPN* invention are directed to a check data generator system that functions to correct systematic data transmission errors. The patent recognized that the reason why systematic errors were able to persist undetected was because the prior art used the same fixed generating function to process every block of data. If a fixed generating function produced defective check data for a transmission that was corrupted with a given systematic error (e.g., first and fourth bit is erroneous in every data transmission), that fixed generating function would likely continue to produce the same defective check data every time that systematic error appeared. As a result, a "[systematic] error once not recognized as such, [wa]s continually not detected."[16]

On appeal, *KPN* challenged only the district court's[17] finding regarding patent ineligibility concerning dependent claims 2-4. For brevity purposes, claim 2 is reproduced below along with independent claim 1:

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.

On appeal, the Federal Circuit concluded that claims 1-2 meet *Alice* Step 1 and do not constitute an ineligible abstract idea that merely uses the computer as a tool.[18] Specifically, the court noted that by requiring in claim 2 that the permutation applied to original data be modified "in time," the claim implemented a non-abstract technique of varying the way check data is generated. As such, the claimed device improves the ability of systems to detect systematic errors.

The Federal Circuit then contrasted the claims of *KPN* with other computer cases where the claims were found to be patent ineligible. The court focused on the specificity in *KPN's* claim language, noting: "Like the ineligible claims discussed above, the appealed claims also process data (by reordering information via permutation). However, because these claims specifically recite how this permutation is used (i.e., modifying the permutation applied to different data blocks), and this specific implementation is a key insight to enabling prior art error detection systems to catch previously undetectable systematic errors, []we conclude that the appealed claims are not directed to an abstract idea because they sufficiently capture the specific asserted improvement in detecting systematic errors. . . ."[19]

Practitioners should note that the claims in *KPN* appear to be broader than the *Data Engine* case. Part of the reason is that the claims effectively capture two unconventional components – the varying device and the permutation device – both arguably unconventional improvements over the prior art.

As one commentator noted, KPN "provides a good guide for patent attorneys working with patents related to data processing. Practitioners should focus on whether the claims recite specific implementation steps (the "how it does it" aspect) that solve a problem identified in the specification, rather than merely stating a result to be achieved (the "what it does" aspect). If a patent claim can be drafted by a person with an understanding of the problem and a desire to solve it but with no knowledge of how to implement the solution (such as a claim that recites providing a desired output, with no recited details for generating that output), it may be difficult to preserve its eligibility in court."[20]

Cellspin Soft, Inc. v. FitBit, Inc., 927 F.3d 1306 (Fed. Cir. 2019)

Cellspin involved an appeal from a district court decision that granted a motion to dismiss where all of the claims were deemed patent ineligible. The lower court also awarded attorney's fees to the defendants.[21] The Federal Circuit reversed both rulings, holding instead that the *Cellspin* claims could potentially be patent-eligible. The court reviewed the following 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.

In analyzing the claims under *Alice* Step 1, the Federal Circuit panel agreed with the lower court's conclusion that the claims involved the abstract idea of capturing and transmitting data from one device to another since the patent specification states that the invention relates to pairing a digital data capture device in conjunction with a mobile device for automatically publishing data. However, the court reasoned that issues of material fact remained open for further consideration.

Cellspin had made specific, plausible factual arguments about why aspects of its claimed inventions were not conventional, e.g., its two-step, two-device structure requiring a connection before data is transmitted. Citing to its prior *Aatrix* decision, the federal panel noted that the lower court erred by requiring Cellspin's assertions of inventiveness over the prior art be limited to language found in the patent specification itself. "While we do not read *Aatrix* to say that any allegation about inventiveness, wholly divorced from the claims or the specification, defeats a motion to dismiss, plausible and specific factual allegations that aspects of the claims are inventive are sufficient."[22] As long as what makes the claims inventive is clearly included in the claims, the specification need not expressly list all the reasons why this claimed structure is unconventional.[23]

For practitioners, *Cellspin,* taken together with *Aatrix,* leaves open the opportunity to still argue patentability in court even if the specification is deficient. Best practice, of course, remains to rely on a strong specification containing as much patentability arguments over the prior art tied to the claim language as possible to avoid this last resort measure. It should come as no surprise that the Federal Circuit also reversed the district court's award of attorney's fees.

SRI International v. Cisco Systems, 930 F.3d 1295 (Fed. Cir. 2019)

SRI involves a Federal Circuit's affirmation of the district court's denial of summary judgment on patent subject matter ineligibility under Section 101.[24]

The claims at issue in *SRI* involve multiple network monitors that each analyze data in order to identify hackers and other computer network intruders. Claim 1 was adopted by the court as representative:

> 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.

Applying the first step of the *Alice* eligibility test, the Federal Circuit concluded that SRI's claim 1 was not directed to an abstract idea; instead the claim was rooted in computer technology in order to solve a specific problem of handling global threats to widely distributed networks – and that the claim limitations were not merely a recitation of generic steps to collect and analyze data but instead override the routine and conventional sequence of events by detecting suspicious activity, generating reports of suspicious activity, and receiving and integrating the reports using one or more hierarchical monitors. The court also dispensed with Cisco's arguments that the invention is not an improvement to computer technology and that the steps are so general so as to encompass steps that people can accomplish in their minds or in handwritten reports. Judge Lourie dissented from the opinion arguing that the claims were similar to the ineligible claims in the oft-cited *Electric Power Group v. Alstom*.[25]

Cardionet v. Infobionic, 955 F.3d 1358 (Fed. Cir. 2020)

The *Cardionet* patent relates to a device for detecting and communicating cardiac related information based on the timing of a person's measured heart timing activity. Claim 1 of the *Cardionet* patent recites the following:

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.

The district court concluded that the patent claimed the abstract idea of monitoring cardiac signals without evident improvement to the computer hardware.[26] The Federal Circuit applied *Alice* Step 1 and concluded the opposite.[27] The federal panel reasoned that claim 1, when read as a whole, and in light of the written description, is directed to an improved cardiac monitoring device and not to an abstract idea that fails to improve technology. The court focused on claim 1's language including: beat-to-beat timing of cardiac activity, detecting premature ventricular beats, determining the relevance of the beat-to-beat timing to atrial fibrillation or atrial flutter, and taking into account the variability in the beat-to-beat timing caused by premature ventricular beats identified by the device's ventricular beat detector. The court concluded that Cardionet's claims focus on a specific means or method that improves cardiac monitoring technology rather than merely a result or effect that itself is the abstract idea and one that merely invokes generic processes and machinery.

The court took particular pains to acknowledge the importance of the medical improvements of that claimed invention that were clearly elucidated in the patent specification: "Indeed, the written description

reports that when analyzing real-world arrythmia data, the device demonstrated both high 'positive predictivity' of, and high 'sensitivity' to, atrial fibrillation and atrial flutter, meaning that it effectively avoids false positives and false negatives, respectively, in detecting these two conditions. In addition, the device is able to identify sustained episodes of atrial fibrillation and atrial flutter that have 'increased clinical significance.'"[28]

The court then went on to describe the similarities between the *CardioNet* invention and other cases, such as *Visual Memory*[29] where it found there were technological improvements largely accomplished by computer software.

Finally the court indicated that the district court over-generalized the invention as claimed. The court's reasoning is noteworthy for practitioners to use in responding to the *Electric Power* decision that is over-used by patent examiners as legal support for their 101 rejections:

> Generalizing the asserted claims as being directed to collecting, analyzing, and reporting data is inconsistent with the Federal Circuit's instruction that courts "… 'be careful to avoid oversimplifying the claims' by looking at them generally and failing to account for the specific requirements of the claims." In stark contrast to the claims in *Berkheimer* and *FairWarning IP[30]*, the claims of the '207 patent do not merely collect electronic information, display information, or embody mental processes. Indeed, the claims of the '207 patent do not "fit into the familiar class of claims that" focus on "certain independently abstract ideas that use computers as tools." SAP Am., Inc. v. InvestPic, LLC, 898 F.3d 1161, 1168 (Fed. Cir. 2018) (quoting Elec. Power, 830 F.3d at 1354). Rather, as discussed above, they fit into the class of claims that focus on "an improvement in computers [and other technologies] as tools." Id. Accordingly, the district court's and InfoBionic's reliance on these cases was misplaced."

There was a lengthy dissent involving whether or not a court could review extrinsic prior art evidence in order to determine whether or not the patent was an improvement over prior art practices. The majority concluded that Step 1 of the *Alice* framework does not require an evaluation of the prior art or facts outside of the intrinsic record regarding the state of the art at the time of the invention and that neither *Bilski,*[31] *Alice*, nor any Federal Circuit precedence endorses such an analysis.

For practitioners, *CardioNet* provides an excellent example of patent prosecution best practices at play: (i) a detailed patent specification which provides ample opportunity for the court to focus on language supporting improvements over the prior art; (ii) including the patentably distinguishable features of the specification in the body of the claims; (iii) using claim language that does not merely recite a result, but instead recites the technological process which achieves the result; and (iv) claiming improvements broadly while avoiding inclusion of unnecessary technical limitations.

XY, LLC et al. v. Trans Ova Genetics, LC, 968 F.3d 1323 (Fed. Cir. 2020)

Claim 1 of the *XY* patent states:

1. A method of operating a flow cytometry apparatus with at least n detectors to analyze at least two populations of particles in the same sample, the method comprising:

   (a) establishing a fluid stream in the flow cytometry apparatus with at least n detectors, the at least n detectors including a first detector and a second detector;

   (b) entraining particles from the sample in the fluid stream in the flow cytometry apparatus;

   (c) executing instructions read from a computer readable memory with a processor, the processor being in communication with the first detector in the flow cytometer, to detect a first signal from the first detector based on individual particles in the fluid stream;

   (d) executing instructions read from the computer readable memory with the processor, the processor being in communication with the second detector in the flow cytometer, to detect a second signal from the second detector based on the individual particles in the fluid stream;

(e) executing instructions read from the computer readable memory with the processor to convert at least the first signal and the second signal into n-dimensional parameter data for detected particles in the sample, wherein the n-dimensional parameter data for particles from the at least two populations overlap in at least one of the dimensions;

(f) executing instructions read from the computer readable memory with the processor to rotationally alter the n-dimensional parameter data so that spatial separation of the data from the particles from the at least two populations in the at least one dimension that is overlapped is increased;

(g) executing instructions read from the computer readable memory with the processor to real-time classify each of the individual detected particles into one of a first population and a second population of the at least two populations based on at least the rotationally altered n-dimensional parameter data; and

(h) using the real-time classification, sorting the individual particles with the flow cytometer.

The Federal Circuit relied on the Supreme Court *Diamond v. Diehr*[32] decision and its *Thales Visionix*[33] reasoning to conclude that the claims at issue did not merely recite an abstract mathematical algorithm, but instead recited a technological invention. In an opinion written by Judge Stoll, the federal panel found that the *XY* claims are directed to an improved method of operating a flow cytometry apparatus which acts to classify and sort particles into at least two populations in real time thereby facilitating classification and sorting of each individual particle. Like *Diehr* and *Thales,* the claimed *XY* method claims apply mathematics to provide results that were unavailable in the prior art – one through the modification of the machine's operation and the other through the reliance on two types of data to yield more accurate results.[34]

XY presents another good example of how to write an application that passes muster under *Diehr* where significant post-solution activity is not only detailed in the patent specification but is also recited in the claims.

An interesting analysis of the XY decision raised the point that the Federal Circuit did not primarily rely on the claim's physical steps as in *Diehr* and made little distinction between such pre-analysis physical steps and the data analysis steps in finding the claims subject-matter eligible under *Alice:*[35]

> Of course, since both physical data gathering steps and post-analysis physical steps (e.g., sorting) were present in the '559 patent claims, such a distinction is not necessary. The result in Trans Ova could have been fully supported by analogy to Diehr. But it is worth noting that the Federal Circuit does not, in its discussion, rely solely on the '559 patent's post-analysis "sorting" step. Rather, it discusses both the invention's physical steps of data gathering and its post analysis sorting steps without weighing one more heavily than another. Trans Ova thus leaves open the question of whether a flow cytometry claim that did not add a "sorting" step would still be subject matter eligible. That question implicates many other analytic instrument technologies including mass spectrometry, chromatography, capillary electrophoresis, PCR and microarray analysis, among others.

Uniloc USA v. LG Electronics USA, 957 Fed. 3d 1303 (Fed. Cir. 2020)

The *Uniloc* case relates to a communications patent that is directed to improving the efficiency of piconet-type communications networks, such as Bluetooth, by compressing communication device handshake times. Specifically, the claims in the *Uniloc* patent are directed to combining a piconet inquiry between a primary station and a secondary station with a polling signal that is generated by the primary station when the secondary station is inactive or "parked." The claims of the *Uniloc* patent are represented by claim 2 which states:

> A primary station for use in a communications system comprising at least one secondary station, wherein means are provided

for broadcasting a series of inquiry messages, each in the form of a series of predetermined data fields arranged according to a first protocol; and

for adding to each inquiry message prior to transmission an additional data field for polling at least one secondary station.

The District court held claim 2 as constituting an abstract idea similar to the data manipulation claims in other subject ineligible patent cases.[36] In an opinion by Judge Moore, the Federal Circuit instead concluded that claim 2 was not an abstract idea under Step 1 of the *Alice* test.

Judge Moore first noted that the Federal Circuit has routinely upheld software claims as patent eligible, and that the court has also deemed improving network efficiency, such as in its *DDR*[37] decision, to constitute a technological improvement. The court then rejected LG's argument that the claims lacked specific language about the improvements to network efficiency. "Claims need not articulate the advantages of the claimed combination to be eligible. . . . These claims are directed to a specified asserted improvement to the function of the communication system itself."[38] While often Federal Circuit decisions on subject matter eligibility reference the claims to state the improvement, this panel was comfortable that evidence of such improvement in the specification was enough. As S. Zimmerman noted: "It appears that LG conceded the advantages of the recited computer improvement, but LG argued that the claims "must expressly mention the reduced latency" to be eligible. The panel disagreed, stating that the claims "need not articulate" the advantage "to be eligible."[39]

Uniloc, as well as the holding in *DDR,* provide practitioners with a firm basis for arguing that improving network efficiency is a well-recognized non-abstract technical improvement and that the resulting efficiency need not be explicitly stated in the claims.

TecSec v. Adobe, 978 F.3d 1278 (Fed. Cir. 2020)

TecSec involves several patents covering a multi-level security system that correspond to different access controls. Claim 1 (of the 5,369,702 patent) is a representative claim, which reads as follows:

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.

At trial, the district court ruled that claim 1 was patent eligible, which Adobe challenged on appeal. In an opinion by Judge Taranto, the Federal Circuit affirmed the lower court's ruling, concluding that the claims at issue passed the first step of the *Alice* two-part test and did not constitute an abstract idea since the claims fulfill the two inquiries that the court has made regarding computer network inventions.[40] Quoting from its decision in *DDR Holdings* the court emphasized the importance of looking at "whether the focus of the claimed advance is on a solution to a problem specifically arising in the realm of computer networks or computers" and "whether the claim is properly characterized as identifying a specific improvement in computer capabilities or network functionality rather than claiming a desirable result or function."[41]

With respect to the first inquiry, and relying on the precedent in its *SRI, Ancora* and *Uniloc* decisions, the court found that Adobe's motion overgeneralized the claims and ignored claim language directed to the "key manager." In the court's eyes the key manager was more than a mere multi-level data construct but instead constituted an advance in computer network security. With regard to the

second inquiry – whether or not the claims at issue provide a specific solution – the court relied heavily on TecSec's expert declaration which described the claimed technique as a "specific unconventional improvement" in computer network functionality. The court also gave great weight to TecSec's detailed background of the invention description to support its conclusion that the invention is directed to solving a problem specific to computer data networks.

For practitioners, *TecSec* is another case where the background portion of the specification played an important role in providing intrinsic evidence of a technical improvement in computer technology.

Packet Intelligence v. Netscout Systems, 965 F.3d 1299 (Fed. Cir. 2020)

The *Packet* case involves an appeal from a district court ruling that upheld the Packet patent as being patent-eligible. The Federal Circuit's analysis was limited to claim 19 which the parties agreed was the representative claim. Claim 19 states:

19. A packet monitor for examining packets passing through a connection point on a computer network, each packet [] 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.

The court affirmed the district ruling that claim 19 was patent eligible. Leaning heavily on its decision in *SRI v. Cisco* the court first emphasized that the claim as a whole should be assessed in light of the patent specification, and that the instant claims, much like those at issue in *SRI,* recite "general steps . . . with minimal detail present in the claim limitations themselves."[42] The court then catalogued how the invention as described in its specification referenced by the claims solved a technological problem through a technological solution.[43] The court rejected NetScout's arguments as only applying to *Alice*, Step 2 which the court considered moot since it considered the claims to not be abstract under *Alice* Step 1. Judge Reyna, in dissenting from the 101 ruling, argued that the district court grounded its finding on the fact that the identifying data packets step based on conversational flows were more of an abstract idea and that more fact finding was needed to determine if the claims covered how conversational flows were technologically identified.

CosmoKey Solutions GmbH & Co. KG v. Duo Security LLC, 15 F.4th 1091 (Fed. Cir. 2021)

CosmoKey involves a reversal by the Federal Circuit under Step 2 of *Alice*. Claim 1 was the only independent claim at issue and this claim recites a method that creates authentication efficiencies. The efficiency created by the CosmoKey method is that instead of requiring the user to input multiple authentication factors in their mobile device through the use of multiple communication channels, their identity is verified by transmitting the user identification via a first communication channel and checking via a second communication channel that the authentication function is activated. Representative claim 1 recites:

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.

The court began its analysis by citing to its earlier decisions that ruled certain authentication technology patents were patent eligible. Then court then turned to its *Ancora* decision to support the notion that improving security can be a non-abstract computer-functionality improvement if done by a specific technique that departs from earlier approaches.[44] The court then turned to the district court's analysis under *Alice* Step 2 and concluded that the court misread the patent specification and ignored specific claim limitations that clearly differentiated the invention from the admitted prior art. Due to this faulty reasoning, the court reversed the district court under Alice Step 2.[45]

Judge Reyna filed a concurrence but cautioned the majority that it cannot skip past Alice Step 1 in conducting its *de novo* review inasmuch as Step 2 of the analysis is dependent on the results of the *Alice* Step 1 analysis.[46] A number of commentators picked up on this jump from Step 1 to Step 2 and agreed with Reyna's concurrence. Indeed, this jump seems inappropriate in light of the reasoning in *Alice*, which only turned to Step 2 once the court had determined that the claims were abstract under Step 1: "Because the claims at issue are directed to the abstract idea of intermediated settlement, we turn to the second step in *Mayo's* framework."[47]

In his blog, Patently-O's Dennis Crouch suggested that the technology in CosmoKey to be hard to distinguish from a similar technology that was found to be patent-ineligible in *Prism Techs. LLC v. T-Mobile USA, Inc.*[48] However, the Federal Circuit's reliance on the *Ancora* decision (which was precedential, discussed above) may offer a reason to why the Federal Circuit had more comfort using *Ancora's* rationale with the *Cosmo-Key* claims.

California Institute of Technology v. Broadcom, Inc. et al., 25 F.4th 976 Fed. Cir., Feb. 2022)

The *CalTech* case involves circuits designed to generate irregular error correction codes in order to increase circuit efficiency, reduce circuit size, and increase operational speed. At trial, the defendants successfully argued that claim 13 claimed an abstract idea since it included a mathematical algorithm. Claim 13 recites the following:

A method of encoding a signal, comprising:

receiving a block of data in the signal to be encoded, the block of data including information bits; and

performing an encoding operation using the information bits as an input, the encoding operation including an accumulation of mod-2 or exclusive-OR sums of bits in subsets of the information bits, the encoding operation generating at least a portion of the codeword, wherein the information bits appear in a variable number of subsets.

On appeal, Broadcom and Apple contended that claim 13 was not patent eligible because it relied on a mathematical algorithm. The Federal Circuit disagreed. In its opinion, Judge Linn concluded that the "mere fact" that Caltech's claims employ a mathematical formula does not demonstrate that it they are *per se* patent ineligible.[49] Citing the Supreme Court decision *Diamond v. Diehr,* Judge Linn reasoned that claim 13 does more than merely claim a mathematical algorithm because that claim is directed to "an efficient, improved method of encoding data that relies in part on irregular repetition."[50] This case received relatively little attention from commentators under the subject matter eligibility issue since there was more focus paid to the scope of IPR estoppel and mixed royalty rate issues in the appeal. However, CalTech provides another recent example for the practitioner regarding successful ways to incorporate mathematical algorithms into the patent-eligible claims.

Cooperative Entertainment v. Kollective Technology, 50 F.4th 127 (Fed. Cir. 2022)

The Cooperative patent involves a system for content delivery that takes a "bottom up" approach in addressing the capacity problem suffered by prior art content delivery networks. By providing a P2P dynamic network, network performance is substantially improved over the prior art. This performance improvement is due in no small part to leveraging the computing capacity of client computers consuming the video content.[51] Moreover, according to the patentee, the segmentation of content data provides added flexibility and specificity regarding two-way content demand that is not possible with more brittle CDN networks. At trial, claim 1 was deemed abstract and Kollective's motion to dismiss was granted. The Federal Circuit reversed and remanded, focusing its analysis on representative claim 1 below:

A system for virtualized computing peer based content sharing comprising:

at least one content delivery server computer constructed and configured for electrical connection and communication via at least one communications network; and

at least one peer-to-peer (P2P) dynamic network including a multiplicity of peer nodes, wherein the multiplicity of peer nodes consume the same content within a predetermined time, wherein the multiplicity of peer nodes are constructed and configured for electronic communication over the at least one P2P dynamic network, wherein the at least one P2P dynamic network is based on at least one trace route; wherein the multiplicity of peer nodes is distributed outside controlled networks and/or content distribution networks (CDNs) that are included within the at least one communications network;

wherein the at least one content delivery server computer is operable to store viewer information, check content request, use the trace route to segment requested content, find peers, and return client-block pairs;

wherein distribution of P2P content delivery over the at least one P2P dynamic network is based on content segmentation;

wherein content segmentation is based on CDN address resolution, trace route to CDN and P2P server manager, dynamic feedback from peers reporting traffic rates between individual peer and its neighbors, round-robin and other server side scheduling/resource allocation techniques.

In its analysis, Judge Moore concluded, after a detailed discussion of the many advantages the invention provides in its written specification over prior art systems, that plausible arguments exist

pointing to an invention that was subject matter eligible. "Drawing all inferences in favor of Cooperative, as we must on a motion to dismiss, we conclude that claim 1 recites a specific technical solution that is an inventive concept: it recites a particular arrangement of peer nodes for distributing content outside controlled networks and/or [CDNs] . . . which did not exist in the prior art. This is not an "abstract idea implemented on a generic computer," and it is alleged to improve the performance of the content delivery network with reductions in costs and improvements in several aspects of system performance."[52] Moreover, relying on the *Berkheimer*[53] decision, the court further concluded that a fact finding of routine and conventional claim limitations cannot be achieved at the Rule 12b(6) stage.[54] The opinion also concluded that the many advantages the invention creates over the prior art are facts supporting an inference of eligibility that was precluded from review on a motion to dismiss.

As one commentor, N. Zalany, notes "the Federal Circuit's decision in *Collective Entertainment* should give some comfort to plaintiffs as district courts may, in the future, be more hesitant to dismiss a case at the pleading stage on ineligibility grounds in view of that decision."[55]

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

Weisner involves an appeal from the finding of the U.S. District Court for the Southern District of New York that the claims of four asserted patents were patent ineligible under *Alice*. In an opinion by Judge Stoll, the Federal Circuit panel split the difference on the eligibility question – agreeing with the lower court on two patents at issue and reversing on two other patents. We restrict this discussion only to the two patents where the claims were deemed patent eligible.

The claims at issue involve methods for storing the URL's of travel histories and using those stored histories to improve web search results and efficiency.

The representative claim at issue states:

1. A computer-implemented method of enhancing digital search results for a business in a target geographic area using URLs of location histories, comprising:

providing, by at least one processing system in communication with a positioning system, an account to (i) an individual member and (ii) a stationary vendor member, of a member network, the account associated with a URL, the individual member's account associated with a mobile communication device or multiple mobile communication devices,

maintaining a communication link between the mobile communication device and the at least one processing system or the positioning system such that the mobile communication device is configured to accumulate a location history on a database maintained by the at least one processing system from physical encounters by the individual member at multiple stationary vendor members upon the mobile communication device being set to enter instances of a physical encounter between the individual member carrying the mobile communication device and the stationary vendor member at a physical premises of the stationary vendor member, the positioning system determining a location of the individual member at the physical premises;

for each individual member having a location history who sends a search query to a search engine of the at least one processing system, the search query targeting a geographic area:

(1) searching, by the search engine, the database for URLs of stationary vendor members in the location history, the location history also identifying time and geographic place of the physical encounters therein, and

(2) assigning a priority, by the at least one processing system, in a search result ranking based on an appearance of one of the stationary vendor member URLs in the location history of the individual member, wherein that one of the URLs is of a particular stationary vendor member located in the target geographic area.

The Federal Circuit first focused on the fact that even though all of the patents shared the same

written specification, the preamble of the ineligible patent claims involved creating travel histories while the eligible patent claims were directed to enhancing internet searches. Applying Step 1 of *Alice*, the court reasoned that the claims presented an abstract idea. However, under Alice Step 2 the court found that the claims recite a specific implementation that purports to solve a problem unique to the Internet and are thus patent eligible.[56]

Finding fault with the lower court's reliance on Weisner's admission that his claims do not involve a new search algorithm, the Federal Circuit homed in on Weisner's usage of physical location parameters for better prioritizing the results of a conventional search as opposed to relying purely on virtual encounter data. The court then cited *DDR*[57] as exemplifying instances where the claims are directed to "a specific solution to an Internet-centric problem." The court also distinguished the *Weisner* claims form the patent ineligible claims in *Ultramercial v. Hulu*[58] since *Weisner's* claims did not broadly and generically claim the use of the Internet, but instead offered a specific way to solve a problem through the use of a referenced individual travel history parameter. Judge Hughes dissented from the court's Alice Step 2 analysis, arguing that the usage of a reference person's travel history was similar to manual business techniques for relying on a trusted source, such as relying on a friend to get more personalized restaurant recommendations.[59]

In his highly influential blog Patently-O Dennis Crouch concludes that "this outcome fits a standard approach that we are seeing in eligibility cases – it is much easier to protect methods of using information than it is to protect methods of collecting information. In the use-case, the information itself combined with some use will regularly be seen as an inventive concept. On the other hand, the courts have been less willing to say that collecting information is patent eligible."[60]

CONCLUSION

As noted in our prior articles, post-*Alice*, the PTO is aggressively rejecting software claims under the *Alice* two-part test, the parameters of which and the application in practice remain difficult to understand and tricky to apply.

We had previously outlined steps to follow which we have updated to reflect recent caselaw that you should follow to have the best shot at avoiding and overcoming a 101 rejection:

1. Draft a specification with evidence of improvement to the operation of computer hardware. Emphasize technical improvements over the prior art, including the citation of test data that demonstrates such improvements. Where possible also explain why the technology cannot be performed manually or in someone's mind alone.

2. Following an Office Action, interview the examiner to see if he or she has specific claim terms in mind.

3. In responding to a 101 rejection, read the specification to find:

    a. Technological details of the claimed invention;

    b. Descriptions of the control of external hardware;

    c. Specific processing rules or logic that improve hardware performance;

    d. Descriptions of improved display interfaces; and

    e. Clear differences from non-computer/non-internet practices.

4. Revise claims with specificity, including using means or step-plus function language where technological details are important, and avoiding the recitation of mere processing results.

5. Tie remarks into specific Federal Circuit cases.

6. Dispute conclusory statements asking for evidence by the examiner by citing *Berkheimer* or by providing evidence through an expert affidavit.

7. If claims are allowed without remarks, add legal justification in subsequent filings to support claims on appeal or in litigation.

Notes

1. Out of Wonderland from Diehr to Aatrix: Three Steps to Overcoming 101 Rejections – Part I; Jon Grossman, Anastasia Dodd, and Alexander S. Perry; Intellectual Property Technology Law Journal (IPT&J); VOLUME 30 • NUMBER 8 • August 2018; Part 2 at IPT&J VOLUME 30 • NUMBER 9 • September 2018.
2. 882 F.3d 1121 (2018).
3. The PTO guidelines are available in Chapter 2100, Section 2104 et seq. of the US Patent Office's Manual of Patent Examining Procedure (MPEP). https://www.uspto.gov/web/offices/pac/mpep/index.html.
4. See Cleveland Clinic Foundation v. True Health Diagnostics 859 F.3d 1352 (Fed. Cir. 2017); In re Rudy, 956 F.3d 1379, 1382 (Fed. Cir. 2020); see also, CxLoyalty, Inc. v. Maritz Holdings, Inc. 986 F.3d 1367, 1376, note 1 (nonprecedential) (Fed. Cir. 2021); Cleveland Clinic Found. v. True Health Diagnostics LLC, 760 F. App'x 1013, 1020 (Fed. Cir. 2019) ("While we greatly respect the PTO's expertise on all matters relating to patentability, including patent eligibility, we are not bound by its guidance. And, especially regarding the issue of patent eligibility and the efforts of the courts to determine the distinction between claims directed to natural laws and those directed to patent-eligible applications of those laws, we are mindful of the need for consistent application of our case law.").
5. Alice Corp. v. CLS Bank International, 573 U.S. 208 (2014).
6. In June 2014, the U.S. Supreme Court in *Alice* removed the presumption that software operating on standard hardware components could avoid being deemed an abstract idea, even though the claim language was sufficiently tied to a machine. Many in the industry saw Alice as a turning point marking the dramatic rollback of patent eligibility under 35 U.S.C. §101 for many software-based inventions. Applying a two-step test developed in the biotechnology decision Mayo V. Promethius, the Alice court extended the Mayo test to determine patent eligibility for computer software inventions: Step 1, known as the Alice "filter step," is whether the claims at issue are directed to a patent-ineligible concept, such as an abstract idea. If the claims are deemed abstract in step one, then the inquiry passes to Step 2, which tests whether elements of the claim contain an inventive concept sufficient to transform the abstract idea determined in filter Step 1 into a patent-eligible invention. To determine Step 2, the court may look at individual claim limitations or the ordered combination of claim limitations to test whether there is "something more" than the performance of well-understood routine and conventional activities previously performed manually or already known in the industry.
7. See MPEP 2106.03.
8. MPEP 2106.05.
9. Berkheimer v. HP Inc., 881 F.3d 1360 (2018).
10. American Axle & Manufacturing, Inc., v. Neapco Holdings LLC., 966 F.3d 1347, 1357-58 (Fed. Cir. 2020).
11. 287 F.Supp.3d 1168, 1173 (W.D. Washington 2017).
12. Enfish, LLC v. Microsoft Corp., 822 F.3d 1327 (Fed. Cir. 2016).
13. Visual Memory LLC v. NVIDIA Corp., 867 F.3d 1253 (Fed. Cir. 2017).
14. Ancora, 908 F.3d at 1348.
15. Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc., 880 F.3d 1356 (Fed. Cir. 2018).
16. KPN, 942 F.3d at 1147 (citing U.S. Patent No. 6,212,662).
17. 3G Licensing, S.A. v. Blackberry Ltd., 302 F. Supp. 3d 640, 655 (D. Del. 2018), vacated, No. 17-CV-82-LPS, 2018 WL 9596145 (D. Del. Aug. 16, 2018), and rev'd sub nom. Koninklijke KPN N.V. v. Gemalto M2M GmbH, 942 F.3d 1143 (Fed. Cir. 2019)..
18. KPN, 942 F.3d at 1150.
19. Id., at 1153.
20. Foley & Lardner, Data Processing Patent Eligibility: Federal Circuit Finds Claims Eligible in KPN v. Gemalto, November 19, 2019 (https://www.foley.com/en/insights/publications/2019/11/data-processing-patent-eligibility-kpn-v-gemalto).
21. Cellspin Soft, Inc. v. Fitbit, Inc., 316 F. Supp. 3d 1138, 1155 (N.D. Cal. 2018), vacated and remanded, 927 F.3d 1306 (Fed. Cir. 2019).
22. Cellspin, 927 F.3d at 1317.
23. Id.
24. SRI Int'l, Inc. v. Cisco Sys., Inc., 179 F. Supp. 3d 339, 354 (D. Del. 2016).
25. Electric Power Group v. Alstom, 830 F.3d 1350 (Fed. Cir. 2016).
26. CardioNet, LLC v. InfoBionic, Inc., 348 F. Supp. 3d 87, 98 (D. Mass. 2018).
27. CardioNet, LLC v. InfoBionic, Inc., 955 F.3d 1358, 1371 (Fed. Cir. 2020).
28. Id. at 1369.
29. Visual Memory LLC v. NVIDIA Corp., 867 F.3d 1253 (Fed. Cir. 2017).
30. FairWarning IP, LLC v. Iatric Sys., Inc., 839 F.3d 1089, 1093–94 (Fed. Cir. 2016).
31. Bilski v. Kappos, 561 U.S. 593 (2010).
32. Diamond v. Diehr, 450 U.S. 175 (1981).
33. Thales Visionix Inc., v. United States, 850 F.3d 1343 (Fed. Cir. 2017).
34. XY, LLC v. Trans Ova Genetics, LC, 968 F.3d 1323, 1332 (Fed. Cir. 2020).

35. Math, Sperm Sorting, and Subject Matter Eligibility, MKW From the Field, August 27, 2020 (https://www.mkwllp.com/from-the-field/math-sperm-sorting-and-subject-matter-eligibility).
36. Uniloc USA Inc. v. LG Elecs. USA Inc., 379 F. Supp. 3d 974, 1000 (N.D. Cal. 2019).
37. DDR Holdings v. Hotels.com, L.P., 773 F.3d 1245 (Fed. Cir. 2014).
38. Uniloc, 957 F.3d at 1309.
39. S. Zimmerman, Uniloc v. LG Shows that Broad Software Claims are Patent Eligible, Highlights the Perils of Concession, IP WatchDog, May 18, 2020 (https://ipwatchdog.com/2020/05/18/uniloc-v-lg-shows-broad-software-claims-patent-eligible-highlights-perils-concession/id=121650).
40. TecSec, Inc. v. Adobe Inc., 978 F.3d 1278, 1296 (Fed. Cir. 2020).
41. Id. at 1293 (citing to Uniloc, Enfish and other cases).
42. Packet Intel. LLC v. NetScout Sys., Inc., 965 F.3d 1299, 1309 (Fed. Cir. 2020).
43. Id.
44. CosmoKey Sols. GmbH & Co. KG v. Duo Sec. LLC, 15 F.4th 1091, 1097 (Fed. Cir. 2021).
45. Id. at 1099.
46. Id. at 1101.
47. Alice, 573 U.S. 208, 221 (2014).
48. Prism Techs. LLC v. T-Mobile USA, Inc., 696 F. App'x 1014 (Fed. Cir. 2017) (nonprecedential opinion).
Crouch, D., Eligibility: Turning Application On-and-Off for Authentication Patent Eligible, Patently-O (https://patentlyo.com/patent/2021/10/eligibility-application-authentication.html).
49. California Inst. of Tech. v. Broadcom Ltd., 25 F.4th 976, 988 (Fed. Cir. 2022).
50. Id.
51. Coop. Ent., Inc. v. Kollective Tech., Inc., 50 F.4th 127, 132-133 (Fed. Cir. 2022).
52. Id. at 133.
53. Berkheimer v. HP Inc., 881 F.3d 1360, 1370 (Fed. Cir. 2018).
54. Coop., at 133.
55. Zalany, N. P., The Alice Test for Patent Ineligibility in Practice, Part Two: The Federal Circuit Affirms a Dismissal, https://www.iptechblog.com/2022/11/the-alice-test-for-patent-ineligibility-in-practice-part-two-the-federal-circuit-affirms-a-dismissal.
56. Weisner v. Google LLC, 51 F.4th 1073, 1085 (Fed. Cir. 2022).
57. DDR Holdings v. Hotels.com, L.P., 773 F.3d 1245 (Fed. Cir. 2014).
58. Ultramercial v. Hulu 772 F.3d 709 (Fed. Cir. 2014).
59. Weisner, at 1090.
60. Crouch, D, Patent Eligibility: Distinguishing Collecting Information from Using Information, October 17, 2022 (https://patentlyo.com/patent/2022/10/eligibility-distinguishing-information.html).