



Recent Development in Patent Eligibility

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Overcoming Non-statutory Subject Matter Rejections

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Statutory Subject Matter

- 35 U.S.C. § 101 states that "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" is patent-eligible.



Exceptions

- Nevertheless, the Supreme Court has acknowledged the existence of several exceptions to these categories that are not patentable.
 - Laws of Nature,
 - Natural Phenomena, and
 - Abstract Ideas



No Preemption

- The Supreme Court has stated that patent protection should not cover claims that monopolize “the basic tools of scientific and technological work.” *Alice Corp. Pty. v. CLS Bank Int’l*, 134 S.Ct. 2347, 2354 (2014).



The *Alice* Framework

- The two-part *Alice* framework guides courts in distinguishing between patent claims that are patent-eligible:
 - (1) Cannot impermissibly claim the “building blocks of human ingenuity,” *i.e.*, abstract ideas. *Alice*, 134 S.Ct. at 2354.
 - (2) Can “integrate the building blocks into something more.” *Alice*, 134 S.Ct. at 2354.



The *Alice* Test

- Step 1: Does the claim meet the statutory language of 35 U.S.C. § 101: "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof."
- Step 2A, Prong 1: "Determine whether the claims at issue are directed to a patent-ineligible concept." *Alice*, 134 S.Ct. at 2355. Now use groupings of Abstract Ideas.
- Step 2A, Prong 2 (NEW): "Integrated into a Practical Application." A claim that integrates a judicial exception into a practical application will apply, rely on, or use 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. Weight to be given to all additional elements, whether or not they are conventional. 2019 Revised Patent Subject Matter Eligibility Guidance.
- Step 2B: "Examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 134 S.Ct. at 2357.



Berkheimer v. HP Inc. , No. 17-1437 (Fed. Cir. 2018)

- *Berkheimer* adopts the two-part test of *Alice v. CLS Bank*
- However, *Berkheimer* alters the part two “something more” *Alice* test to be a factual determination, not just a legal determination. Thus, the question of whether claims contain additional elements that transform the invention into something more than “well-understood, routine, and conventional to a skilled artisan at the time of the patent” is now a question of fact.
- This case was significant enough that a memo (“the *Berkheimer* Memo”) was send to all Examiners in the Patent Office explaining its significance.



Takeaways from the *Berkheimer* case and Memo

- Rejections under 35 USC § 101 must be shown in the Office Action through a factual determination, including: (1) statement made by the applicant during prosecution, (2) citation to a court decision, (3) citation to a publication, or (4) Official Notice. Improper rejections may be challenged.
- Argue that the claims are direct to a technological improvement that is produced by the limitations of the claims.
- Argue factual assertions made by the Examiner with analysis and a factual rebuttal made in response.
- The Berkheimer Memo states, regarding the two-part test, that “to represent well-understood, routine, conventional activity, the additional elements must be widely prevalent or in common use in the relevant field, comparable to the types of activity or elements that are so well-known that they do not need to be described in detail in a patent application to satisfy 35 USC § 112(a).” Accordingly, “a showing that additional elements are obvious under 35 USC § 103, or even that they lack novelty under 35 USC § 102, is not by itself sufficient to establish that the additional elements are well-understood, routine, conventional activities or elements to those in the relevant field.”



35 USC 101 Invalidation Rejections just before and after Berkheimer

	District Court	Federal Circuit	PTAB
Q3 2017	63%	94%	100%
Q4 2017	63%	100%	78%
Q1 2018	46%	56%	33%
Q2 2018	30%	86%	50%

Source: Fenwick and West

- Berkheimer will likely have a greater effect on litigation than in patent prosecution.
- There will be fewer cases decided at the Motion to Dismiss stage or the Summary Judgement stage.
- Instead, more cases will likely proceed to a final decision.



The *Berkheimer* effect – Is there one?

- Of the 70 post-*Berkheimer* decisions through the end of June 2018, there were 25 decisions containing one or more citations to *Berkheimer*.
- Of the 25 decisions citing *Berkheimer*, 15 found invalidity and 10 finding validity. This is a higher invalidation rate than in recent cases that did not cite *Berkheimer*.
- Notably, courts are not ignoring *Berkheimer*, but they are distinguishing *Berkheimer*.



BSG Tech LLC v. BuySeasons, Inc. (August 2018)

- Federal Circuit decided in [*BSG Tech LLC v. BuySeasons, Inc.*](#) to invalidate patent claims by BSG Tech as patent-ineligible under 35 U.S.C. § 101.
- BSG Tech argued that its patent claims were not directed to an abstract idea for three reasons: (1) the claims require a specific database structure; (2) the claims require “summary comparison usage information” by the users instead of historical usage information; and (3) the claims are directed to technological improvements in database functionality.
- However, the Federal Circuit held the database structures to be well-understood and conventional.



Core Wireless Licensing v. LG Electronics (Fed Cir. 2018)

- The Federal Circuit held that the claims satisfied Step 2A of *Alice* and thus were not an Abstract idea.
- In *Core Wireless*, the claims were directed to an improved display interface that allowed users to more quickly access stored data in small-screen electronics, thereby improving the efficient functioning of the computer. *Core Wireless*, 880 F.3d at 1359. The Federal Circuit noted that since *Core Wireless* displayed only a limited list of data from which to choose, the invention spared users from time consuming operations, thus increasing the efficiency through which users could navigate windows.
- The court noted the limitations of: (1) a particular manner of summarizing and presenting information, (2) specifying a particular manner by which the summary window must be accessed, (3) restraining the type of data that can be displayed” and (4) including a requirement that the device applications exist in a particular state.
- The Federal Circuit found the claim recited “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.”
- The Federal Circuit further concluded that the claims were patent eligible because the claims “recite[d] a specific improvement over prior systems, resulting in an improved user interface for electronic devices,” and thus were directed to “an improvement in the functioning of computers.” *Id.* At 1363.



Data Engine Technologies (DET) LLC v. Google LLC

- The Federal Circuit held that the claim 12 satisfied Step 2A of *Alice* and thus was not an Abstract idea; while the remaining claims were held to be Abstract ideas.
- The patents related to a method for tracking changes in an electronic spreadsheet and navigating through a spreadsheet using tabs that allow the user to “flip through” the different spreadsheet pages.
- DET submitted several articles at the time of the invention praising the advantages of new tab-enabled spreadsheet software packages. The articles explained that tabbing solved the problem of managing the complexity of large spreadsheets was a long term problem for users, and existing, non-tabbed spreadsheets would have data and results distributed in an unorganized fashion.
- The Court concluded that the invention of claim 12 was "directed to a specific method for navigating through three-dimensional electronic spreadsheets" rather than an abstract idea, while noting that the claimed method "provides a specific solution to then-existing technological problems" that were unique to computers. Particularly, the tabbed interface offers "a highly intuitive, user-friendly interface with familiar notebook tabs for navigating the three-dimensional worksheet environment."
- However, the Federal Circuit found that the other claims "generically recite associating each of the cell matrices with a user-settable page identifier and do not recite the specific implementation of a notebook tab interface" and thus, are "not limited to the specific technical solution and improvement in electronic spreadsheet functionality that rendered representative claim 12 of the '259 patent eligible."



Vanda v. West-Ward (Fed. Cir. 2017) & the *Vanda* Memo (June 2018)

- The Supreme Court’s Mayo decision invalidated claims to a method for determining the optimal dose range of an immunosuppressive drug by measuring the blood concentration of its metabolite. However, the Mayo decision contained language explicitly stating that claims directed to new uses for an existing compound were patent-eligible.
- The Federal Circuit decided in *Vanda v. West-Ward* to continue to allow diagnostic claims that included the step of treating the condition that had been diagnosed. The justification was that while a diagnostic correlation may be a natural phenomenon, the treatment step is a practical application of the knowledge gained by the diagnosis.
- Three takeaways from the *Vanda* Memo:
 - Claims should be evaluated as a whole, including arguably conventional steps, when determining whether they are “directed to” a judicial exception.
 - Despite the “administering” step, the claims invalidated in Mayo were not a method of treatment claims that practically applied a natural relationship. Accordingly, Mayo does not undermine the eligibility of method of treatment claims.
 - When determining whether claims are directed to a judicial exception, there is no need to consider whether the recited steps are “routine or conventional,” and if the claims are not directed to a judicial exception, there is no need to undertake such an analysis.



Common Abstract Ideas to Avoid

- Claims ineligible as directed to an abstract idea when they merely:
 - (1) collect electronic information,
 - (2) display information, or
 - (3) embody mental processes that could be performed by humans.
- *Thales*, citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)



Common Abstract Ideas to Avoid

- Claims ineligible as directed to an abstract concept when they directed to:
 - (1) organizing data,
 - (2) displaying data, and
 - (3) manipulating data encoded for human- and machine-readability.
- *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340–41 (Fed. Cir. 2017)



Practical Techniques for Drafting and/or Amending Claims

- (1) Include more hardware and structure in your claims.
- (2) If possible, recite Special-Purpose Device or System.
- (3) Make the last step of a method claim significant, transformative, and/or physical in nature or effect.
- (4) Solve a Technological Problem (that was identified and explained in your specification).
- (5) Solve an Internet/Computer-Centric Problem (that was identified and explained in your specification).
- (6) Draft your software claims from the perspective of the computer, not the perspective of the end-user.



(1) Include more hardware and structure in your claims

- Merely reciting software method steps in a manner that is disconnected from the overall architecture of the system is likely insufficient for patent-eligibility.
- Even though you are attempting to claim software, try to emphasize the hardware and how the hardware is connected to the architecture of the system.
- The description of the software to be patented must be of a concrete and tangible technological solution/improvement/innovation, and that concrete and tangible technological solution/improvement/innovation needs to be clearly stated in the claims. The courts claim that they are not persuaded by “tangibility” but Examiners appear to be persuaded by “tangibility.”
- Even if your claim is labeled by the PTO as an abstract idea, the presence of tangible components may add “significantly more” to the abstract idea and render the claim patent eligible.
- Simply stated, to patent software, make sure your software is adequately supported by hardware components.



(2) Special-Purpose Device or System?

- Are you practicing in an art group that recognizes a special-purpose device or system?
- If so, make sure that you include the claim elements necessary to categorize your claimed device or system as “special-purpose” and not a “generic computer.”
- Typically these elements are hardware components that are different than those used by a standard computer system.
- The recognition of such special-purpose devices or systems may vary between Examiners within the same art group.
- ITC Decision - Certain Network Devices (Inv. No. 337-TA-944) ITC found that these patents are directed to a specific device, namely “a switch or a router comprising a VLAN—a definite structure.”
- The ITC concluded that “the claims require a special purpose device with defined structures that transform the networking device into a special purpose machine.”



(3) Significant, Transformative, and/or Physical Last Step

- Remember the claims of *Diamond v. Diehr* 450 U.S. 175, 177 (1981) .
- Appears to show the importance a significant, tangible end result, *i.e.*, “ending with the opening of the press and the production of a synthetic rubber product that has been perfectly cured.”
- The invention improved upon prior art molding methods by (1) constantly measuring the actual temperature inside the mold, (2) recalculating the ideal cure time, and (3) automatically opening the press when the ideal cure time equaled the actual time elapsed.
- Would this process have been patent-eligible if there was no physical “opening the press” step?
- Probably not.



(4) Solve a Technological Problem

- Provide a concrete and tangible technological solution/improvement/innovation that is evident in the claims.
- Define a technological problem (that was identified and explained in your specification).
- Explain a technological solution (that was identified and explained in your specification).
- Explain how the technological solution is implemented.
- Explain the desired functionality that results from the implementation described in the specification.
- Explain how this implementation is an improvement (or at least unconventional) with respect to the prior art.
- Draft similar to European-Style Problem/Solution Approach



(5) Solve an Internet/Computer-Centric Problem

- *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014) – Blended Website that displays merchant webpage without transporting away from host webpage, unconventional configuration or manner is important.
- *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, Slip Op. No. 2015-1180 (Fed. Cir. Nov. 1, 2016) – Distributed Processing to Minimize use of Network Resources.
- *BASCOM Global Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016) – Customized filtering of Internet Content
- Internet security
- Fraud protection – Internet-based identity theft
- Cyberstalking, cyberbullying, etc.

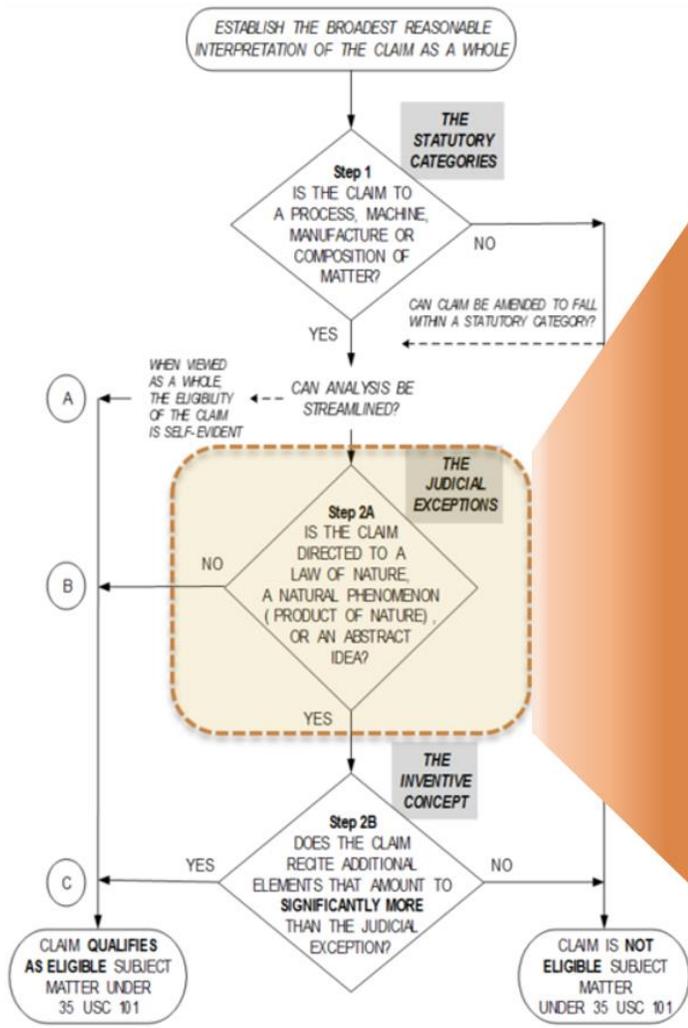


(6) Draft Software Claims From The Perspective Of The Computer, Not The End-user

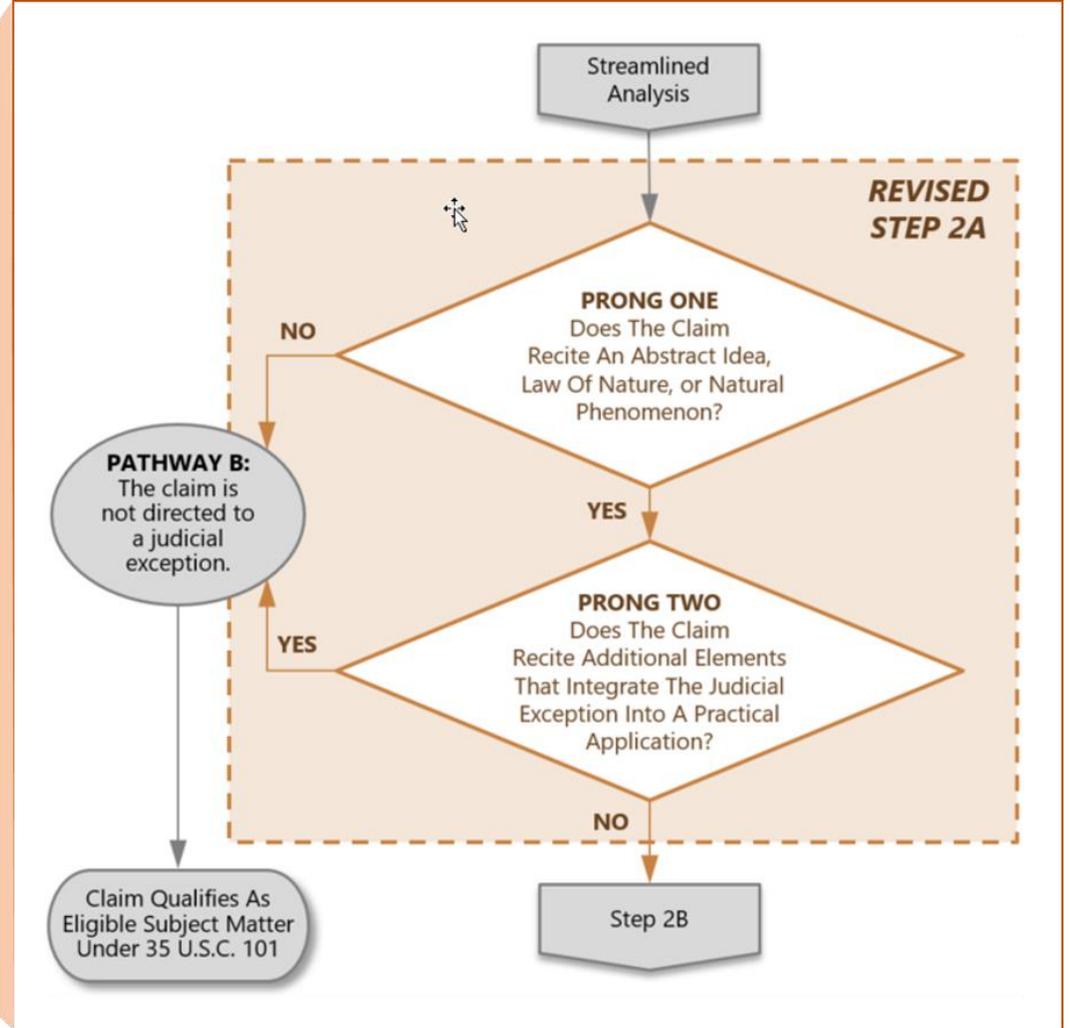
- There is a propensity to describe software from the viewpoint of the end user.
- The description that is necessary is an explanation of how the software operates from the viewpoint of the computer operating system, not the viewpoint of the user.
- If your application's description is only from a user's viewpoint, it is likely that you are not explaining the operation of the software on a technical level.
- Describe in a step-by-step manner the logic the computer programmer needs to follow to dictate how the software operates.
- Explain the software step-by-step so that a computer programmer can to create the code necessary from your description.

MPEP flowchart including revised Step 2A

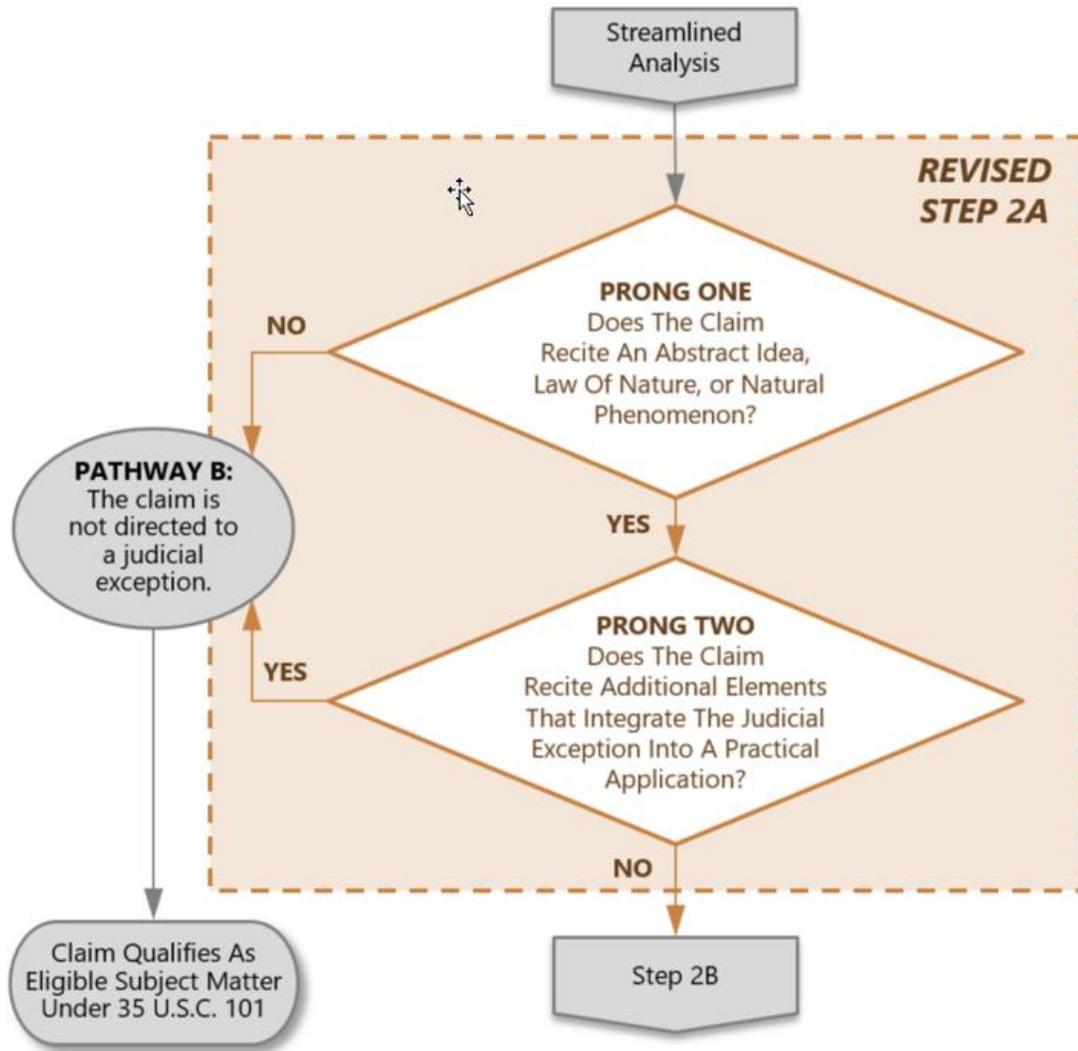
MPEP flowchart



Revised Step 2A flowchart



What has changed: Revised Step 2A



- This flowchart depicts revised Step 2A.
- Under this new two-prong inquiry, a claim is now eligible at revised Step 2A unless it:
 - Recites a judicial exception and
 - The exception is not integrated into a practical application of the exception.

Prong One: Overview

- Prong One vs. prior guidance
 - For **laws of nature and natural phenomena**, Prong One does not represent a change from prior guidance.
 - Continue to use the “recite” standard set forth in MPEP 2106.04(b) and (c), including the markedly different characteristics analysis, to determine if a claim recites a law of nature or natural phenomenon.
 - If the claim recites a law of nature or natural phenomenon (including a product of nature), the analysis proceeds to Prong Two.
 - For **abstract ideas**, Prong One represents a change from prior guidance.
 - Now use groupings of abstract ideas.
 - **No longer use the “Eligibility Quick Reference Sheet Identifying Abstract Ideas” when determining whether a claim recites an abstract idea.**

Prong One: Abstract ideas

- Prong One procedure for determining whether a claim “recites” an abstract idea is:
 - Identify the specific limitation(s) in the claim under examination that the examiner believes recites an abstract idea, and
 - Determine whether the identified limitation(s) falls within at least one of the **groupings** of abstract ideas enumerated in the 2019 PEG.
- If the identified limitation(s) falls within any of the groupings of abstract ideas enumerated in the 2019 PEG, the analysis should proceed to Prong Two.
- Claim limitations that do not fall within the enumerated groupings should not be treated as abstract ideas except in rare circumstances (see slide 38 for more information).

Groupings of abstract ideas

Mathematical concepts

- Mathematical relationships
- Mathematical formulas or equations
- Mathematical calculations

Mental processes

- Concepts performed in the human mind (including an observation, evaluation, judgment, opinion)

NOTE: The recitation of generic computer components in a claim does not necessarily preclude that claim from reciting an abstract idea.

Certain methods of organizing human activity

- **Fundamental economic principles or practices** (including hedging, insurance, mitigating risk)
- Commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations)
- Managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions)

Revised Step 2A: Prong Two

- New procedure not found in prior guidance:
 - Identifying whether there are any additional elements recited in the claim beyond the judicial exception(s), and
 - Evaluating those additional elements to determine whether they integrate the exception into a practical application of the exception.
- “Integration into a practical application”
 - Requires an additional element or a combination of additional elements in the claim to apply, rely on, or use 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 exception.
 - Uses the considerations laid out by the Supreme Court and the Federal Circuit to evaluate whether the judicial exception is integrated into a practical application.

Prong Two considerations: Introduction

- Most of these considerations should be familiar to you.
 - As noted in the following slides, most of the considerations are discussed in MPEP 2106.05 and sub-sections 2106.05(a) through 2106.05(h) with respect to Step 2B.
 - Unless otherwise specified in the 2019 PEG, you should evaluate these considerations in Step 2A Prong Two the same way you have been evaluating them in Step 2B.
- The 2019 PEG modifies the considerations in two ways:
 - The improvements consideration is evaluated **differently** in Step 2A Prong Two than in the streamlined analysis or Step 2B.
 - Adds a **new** consideration based on case law including *Vanda*, for evaluation of particular treatment or prophylaxis limitations.

Prong Two considerations: Details

Limitations that are indicative of integration into a practical application:

- **Improvements** to the functioning of a computer, or to any other technology or technical field - see MPEP 2106.05(a);
- **Applying or using a judicial exception to effect a particular treatment or prophylaxis for a disease or medical condition** – see *Vanda* Memo;
- **Applying the judicial exception with, or by use of, a particular machine** - see MPEP 2106.05(b);
- Effecting a **transformation** or reduction of a particular article to a different state or thing - see MPEP 2106.05(c); and
- Applying or using the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular **technological environment**, such that the claim as a whole is more than a drafting effort designed to monopolize the exception - see MPEP 2106.05(e) and *Vanda* Memo.

Limitations that are **not** indicative of integration into a practical application:

- Adding the words “apply it” (or an equivalent) with the judicial exception, or mere instructions to implement an abstract idea on a computer, or merely uses a computer as a tool to perform an abstract idea - see MPEP 2106.05(f);
- Adding insignificant extra-solution activity to the judicial exception - see MPEP 2106.05(g); and
- Generally linking the use of the judicial exception to a particular technological environment or field of use – see MPEP 2106.05(h)

Whether claim elements represent only well-understood, routine, conventional activity is considered at Step 2B and is not a consideration at Step 2A.

Prong Two excludes the “WURC” consideration

- As noted on the preceding slide, there is no evaluation of well-understood, routine, conventional (“WURC”) activity in Prong Two.
- Examiners should give weight to **all** of the claimed additional elements in Prong Two, even if those elements represent well-understood, routine, conventional (WURC) activity.
 - Because Step 2A **excludes** consideration of WURC, a claim that includes WURC elements may still **integrate** an exception into a practical application.
 - Do not evaluate WURC unless the analysis proceeds to Step 2B.

Changes to improvements evaluation in Step 2A

- The 2019 PEG **changes** the improvements analysis at Step 2A by excluding all consideration of whether claim limitations are well-understood, routine, conventional activity. Thus, in Step 2A, you should:
 - Focus your evaluation of the improvements consideration on whether the claim pertains to an **improvement** to technology without reference to what is well-understood, routine, conventional activity.
 - Follow the guidance on improvements in MPEP 2106.04(a) and 2106.05(a) insofar as those sections of the MPEP do not contradict the 2019 PEG.
- The 2019 PEG does not change the streamlined analysis or Step 2B.
 - In the streamlined analysis and Step 2B, continue following the guidance on improvements in MPEP 2106.05(a).
 - Specifically, in these steps of the analysis, you should continue to evaluate whether a claim pertains to an improvement to conventional functioning of a computer, or to conventional technology, or technological processes.

Eligibility at Step 2B

- Revised Step 2A overlaps with Step 2B, and thus, many of the considerations need not be re-evaluated in Step 2B because the answer will be the same.
- However, if an examiner had previously concluded under revised Step 2A that an additional element was insignificant extra-solution activity, they should re-evaluate that conclusion in Step 2B.
 - If such reevaluation indicates that the element is unconventional or otherwise more than what is well-understood, routine, conventional activity in the field, this finding may indicate that an inventive concept is present and that the claim is thus eligible.
 - For example, when evaluating a claim reciting an abstract idea such as a mathematical equation and a series of data gathering steps that collect a necessary input for the equation, an examiner might consider the data gathering steps to be insignificant extra-solution activity in revised Step 2A, and therefore find that the judicial exception is not integrated into a practical application. However, when the examiner reconsiders the data gathering steps in Step 2B, the examiner could determine that the combination of steps gather data in an unconventional way and, therefore, provide an “inventive concept,” rendering the claim eligible at Step 2B.

Step 2B considerations overlap with Step 2A

Limitations that are indicative of an inventive concept (aka “significantly more”):

- Improvements to the functioning of a computer, or to any other technology or technical field - see MPEP 2106.05(a);
- Applying the judicial exception with, or by use of, a particular machine - see MPEP 2106.05(b);
- Effecting a transformation or reduction of a particular article to a different state or thing - see MPEP 2106.05(c);
- Applying or using the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception - see MPEP 2106.05(e) and *Vanda* Memo; and
- **Adding a specific limitation other than what is well-understood, routine, conventional activity in the field - see MPEP 2106.05(d).**

Limitations that are **not** indicative of an inventive concept (aka “significantly more”):

- Adding the words “apply it” (or an equivalent) with the judicial exception, or mere instructions to implement an abstract idea on a computer, or merely uses a computer as a tool to perform an abstract idea - see MPEP 2106.05(f);
- Adding insignificant extra-solution activity to the judicial exception - see MPEP 2106.05(g);
- Generally linking the use of the judicial exception to a particular technological environment or field of use – see MPEP 2106.05(h); and
- **Simply appending well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception - see MPEP 2106.05(d) and *Berkheimer* Memo.**

Summary – 3 Helpful Ways To Argue Eligibility

1. Abstract idea categories now track Supreme Court precedence
 - A. Mathematical Concepts
 - B. Mental Processes
 - C. Certain Methods of Organizing Human Activity
 - No idea of itself or eligibility quick reference sheet
 - Analogize with positive case law
2. Analysis is focused on “practical application”
 - Essentially a preemption analysis
 - Field of use; specific application/scenarios; performing actions; controlling components/systems; yielding physical results
 - Improvement to technology
3. Additional, non-conventional claim elements
 - Use of modern UI framework, delivery methods, sensors/devices
 - Known elements from another field applied in new application/scenarios
 - Improvement to technology



2019 Patent Eligibility Guidance: New Examples

Presented by Casey Fitzpatrick

March 20, 2019

[Your Innovation Partners]

CHRISTENSEN | O'CONNOR
JOHNSON | KINDNESS

Brief recap: The New Test

- Step 2A, Prong One
 - Refer to subject matter groupings of abstract ideas (“Math, Money, Mental Steps”*) to see if the claim recites one

* <https://www.law360.com/articles/1130012/>

Brief recap: The New Test

- Step 2A, Prong Two
 - Evaluate whether the judicial exception is “**integrated into a practical application**”
 - Like Step 2B, but no “WURC”
 - Evaluate “additional elements” individually and claim as a whole
 - Well Understood? Routine? Conventional? Don’t analyze here.
- Step 2B: As before (do the “WURC” here)

New Guidance Examples

- New Examples 37-42 (with eligibility outcomes)
 - **37: Rank/relocate icons in user interface (depends)**
 - 38: Simulating analog audio mixer (eligible)
 - **39: Train neural network for face recognition (eligible)**
 - **40: Adaptively monitor network traffic (depends)**
 - **41: Cryptographic communications (eligible)**
 - 42: Updating medical records (depends)

New Guidance Examples

- “Integrated into a practical application”???
- Theoretically, lots of ways to do this, but these examples only really address:
 - Improvement of computer/other technology (37-40, 42), or
 - The catch-all category: Apply/use exception in some other meaningful way beyond general link to a particular tech. environment (41)
- * In theory, applicant can make these arguments regardless of whether additional elements are WURC.

New Example 37 – Claim 1

New Example 37 – Claim 1

1. A method of rearranging icons on a graphical user interface (GUI) of a computer system, the method comprising:

receiving, via the GUI, a user selection to organize each icon based on a specific criteria, wherein the specific criteria is an amount of use of each icon;

determining, by a processor, the amount of use of each icon over a predetermined period of time; and

automatically moving the most used icons to a position on the GUI closest to the start icon of the computer system based on the determined amount of use.

New Example 37 – Claim 1

1. A method of rearranging icons on a graphical user interface (GUI) of a computer system, the method comprising:

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- 2A, Prong One: Recites abstract idea (“mental step” + generic components)

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determining, by a processor, the amount of use of each icon over a predetermined period of time; and

automatically moving the most used icons to a position on the GUI closest to the start icon of the computer system based on the determined amount of use.

- 2A, Prong One: Recites abstract idea (“mental step” + generic components)
- 2A, Prong Two: But eligible because automatically moving/displaying icons based on usage provides improvement over prior interfaces, therefore a “practical application” (no WURC analysis)

New Example 37 – Claim 2

New Example 37 – Claim 2

2. A method of rearranging icons on a graphical user interface (GUI) of a computer system, the method comprising:
 - receiving, via the GUI, a user selection to organize each icon based on a specific criteria, wherein the specific criteria is an amount of use of each icon;
 - determining the amount of use of each icon using a processor that tracks how much memory has been allocated to each application associated with each icon over a predetermined period of time; and
 - automatically moving the most used icons to a position on the GUI closest to the start icon of the computer system based on the determined amount of use.

New Example 37 – Claim 2

2. A method of rearranging icons on a graphical user interface (GUI) of a computer system, the method comprising:

receiving, via the GUI, a user selection to organize each icon based on a specific criteria, wherein the specific criteria is an amount of use of each icon;

determining the amount of use of each icon using a processor that tracks how much memory has been allocated to each application associated with each icon over a predetermined period of time; and

automatically moving the most used icons to a position on the GUI closest to the start icon of the computer system based on the determined amount of use.

- 2A, Prong One: Eligible because no abstract idea recited (determining step now requires action that can't be mental because it involves accessing computer memory indicative of application usage)

New Example 37 – Claim 3

New Example 37 – Claim 3

3. A method of ranking icons of a computer system, the method comprising:
 - determining, by a processor, the amount of use of each icon over a predetermined period of time; and
 - ranking the icons, by the processor, based on the determined amount of use.

New Example 37 – Claim 3

3. A method of **ranking** icons of a computer system, the method comprising:
determining, ~~by a processor,~~ the amount of use of each icon over a predetermined period of time; and
ranking the icons, ~~by the processor,~~ based on the determined amount of use.

- 2A, Prong One: Recites abstract ideas (“mental steps” + generic components)

New Example 37 – Claim 3

3. A method of **ranking** icons of a computer system, the method comprising:
determining, by a processor, the amount of use of each icon over a predetermined period of time; and
ranking the icons, by the processor, based on the determined amount of use.

- 2A, Prong One: Recites abstract ideas (“mental steps” + generic components)
- 2A, Prong Two: Additional element (processor) provides no “practical application.” Directed to an abstract idea.

New Example 37 – Claim 3

3. A method of **ranking** icons of a computer system, the method comprising:
determining, by a processor, the amount of use of each icon over a predetermined period of time; and
ranking the icons, by the processor, based on the determined amount of use.

- 2A, Prong One: Recites abstract ideas (“mental steps” + generic components)
- 2A, Prong Two: Additional element (processor) provides no “practical application.” Directed to an abstract idea.
- 2B: Generic processor is WURC. Therefore, claim is not eligible.

New Example 39

New Example 39

A computer-implemented method of training a neural network for facial detection comprising:

- collecting a set of digital facial images from a database;

- applying one or more transformations to each digital facial image including mirroring, rotating, smoothing, or contrast reduction to create a modified set of digital facial images;

- creating a first training set comprising the collected set of digital facial images, the modified set of digital facial images, and a set of digital non-facial images;

- training the neural network in a first stage using the first training set;

- creating a second training set for a second stage of training comprising the first training set and digital non-facial images that are incorrectly detected as facial images after the first stage of training; and

- training the neural network in a second stage using the second training set.

New Example 39

A computer-implemented method of training a neural network for facial detection comprising:

collecting a set of digital facial images from a database;

applying one or more transformations to each digital facial image including **mirroring, rotating, smoothing, or contrast reduction** to create a modified set of digital facial images;

creating a first training set comprising the collected set of digital facial images, the modified set of digital facial images, and a set of digital non-facial images;

training the neural network in a first stage using the first training set;

creating a second training set for a second stage of training comprising the first training set and digital non-facial images that are incorrectly detected as facial images after the first stage of training; and

training the neural network in a second stage using the second training set.

- Some steps involve an abstract idea (mathematics), but no math is recited directly in the claim.

New Example 39

A computer-implemented method of training a neural network for facial detection comprising:

collecting a set of digital facial images from a database;

applying one or more transformations to each digital facial image including **mirroring, rotating, smoothing, or contrast reduction** to create a modified set of digital facial images;

creating a first training set comprising the collected set of digital facial images, the modified set of digital facial images, and a set of digital non-facial images;

training the neural network in a first stage using the first training set;

creating a second training set for a second stage of training comprising the first training set and digital non-facial images that are incorrectly detected as facial images after the first stage of training; and

training the neural network in a second stage using the second training set.

- Some steps involve an abstract idea (mathematics), but no math is recited directly in the claim.
- 2A, Prong One: Eligible because no abstract ideas from any of the three main groupings (math, human activities, mental steps) are actually recited.

New Example 40 – Claim 1

New Example 40 – Claim 1

1. A method for adaptive monitoring of traffic data through a network appliance connected between computing devices in a network, the method comprising:

collecting, by the network appliance, traffic data relating to the network traffic passing through the network appliance, the traffic data comprising at least one of network delay, packet loss, or jitter;

comparing, by the network appliance, at least one of the collected traffic data to a predefined threshold; and

collecting additional traffic data relating to the network traffic when the collected traffic data is greater than the predefined threshold, the additional traffic data comprising NetFlow protocol data.

New Example 40 – Claim 1

1. A method for adaptive monitoring of traffic data through a network appliance connected between computing devices in a network, the method comprising:

collecting, by the network appliance, traffic data relating to the network traffic passing through the network appliance, the traffic data comprising at least one of network delay, packet loss, or jitter;

comparing, ~~by the network appliance,~~ at least one of the collected traffic data to a predefined threshold; and

collecting additional traffic data relating to the network traffic when the collected traffic data is greater than the predefined threshold, the additional traffic data comprising NetFlow protocol data.

- 2A, Prong One: Recites abstract idea (“mental step” + generic components)

New Example 40 – Claim 1

1. A method for adaptive monitoring of traffic data through a network appliance connected between computing devices in a network, the method comprising:

collecting, by the network appliance, traffic data relating to the network traffic passing through the network appliance, the traffic data comprising at least one of network delay, packet loss, or jitter;

comparing, by the network appliance, at least one of the collected traffic data to a predefined threshold; and

collecting additional traffic data relating to the network traffic when the collected traffic data is greater than the predefined threshold, the additional traffic data comprising NetFlow protocol data.

- 2A, Prong One: Recites abstract idea (“mental step” + generic components)
- 2B, Prong Two: But eligible because the collecting steps together provide improved network monitoring over prior systems, therefore a “practical application” (no WURC analysis)

New Example 40 – Claim 2

New Example 40 – Claim 2

2. A method for monitoring of traffic data through a network appliance connected between computing devices in a network, the method comprising:

collecting, by the network appliance, traffic data relating to the network traffic passing through the network appliance, the traffic data comprising at least one of network delay, packet loss, or jitter; and

comparing, by the network appliance, at least one of the collected traffic data to a predefined threshold.

New Example 40 – Claim 2

2. A method for monitoring of traffic data through a network appliance connected between computing devices in a network, the method comprising:

collecting, by the network appliance, traffic data relating to the network traffic passing through the network appliance, the traffic data comprising at least one of network delay, packet loss, or jitter; and

comparing, by the network appliance, at least one of the collected traffic data to a predefined threshold.

- 2A, Prong One: Recites abstract ideas (“mental steps” + generic components)

New Example 40 – Claim 2

2. A method for monitoring of traffic data through a network appliance connected between computing devices in a network, the method comprising:

collecting, by the network appliance, traffic data relating to the network traffic passing through the network appliance, the traffic data comprising at least one of network delay, packet loss, or jitter; and

comparing, **by the network appliance**, at least one of the collected traffic data to a predefined threshold.

- 2A, Prong One: Recites abstract ideas (“mental steps” + generic components)
- 2A, Prong Two: Network appliance is generic. Collecting step “is recited at a high level of generality” as “general means of gathering network traffic” and is “extra-solution activity.” Directed to an abstract idea.

New Example 40 – Claim 2

2. A method for monitoring of traffic data through a network appliance connected between computing devices in a network, the method comprising:

collecting, by the network appliance, traffic data relating to the network traffic passing through the network appliance, the traffic data comprising at least one of network delay, packet loss, or jitter; and

comparing, by the network appliance, at least one of the collected traffic data to a predefined threshold.

- 2A, Prong One: Recites abstract ideas (“mental steps” + generic components)
- 2A, Prong Two: Network appliance is generic. Collecting step “is recited at a high level of generality” as “general means of gathering network traffic” and is “extra-solution activity.” Directed to an abstract idea.
- **Wait. Is this WURC analysis?** Apparently not.

New Example 40 – Claim 2

2. A method for monitoring of traffic data through a network appliance connected between computing devices in a network, the method comprising:

collecting, by the network appliance, traffic data relating to the network traffic passing through the network appliance, the traffic data comprising at least one of network delay, packet loss, or jitter; and

comparing, by the network appliance, at least one of the collected traffic data to a predefined threshold.

- 2A, Prong One: Recites abstract ideas (“mental steps” + generic components)
- 2A, Prong Two: Network appliance is generic. Collecting step “is recited at a high level of generality” as “general means of gathering network traffic” and is “extra-solution activity.” Directed to an abstract idea.
- 2B: Generic network appliance is WURC. Court cases indicate generic collection of network data is WURC. Therefore, claim is **not eligible.**

New Example 41

New Example 41

A method for establishing cryptographic communications between a first computer terminal and a second computer terminal comprising:

receiving a plaintext word signal at the first computer terminal;

transforming the plaintext word signal to one or more message block word signals M_A ;

encoding each of the message block word signals M_A to produce a ciphertext word signal C_A , whereby $C_A = M_A^e \pmod{n}$, where C_A is a number representative of an encoded form of message word M_A , M_A corresponds to a number representative of a message and $0 \leq M_A \leq n-1$, n is a composite number of the form $n=p*q$, p and q are prime numbers, and e is a number relatively prime to $(p-1)*(q-1)$; and

transmitting the ciphertext word signal C_A to the second computer terminal over a communication channel.

New Example 41

A method for establishing cryptographic communications between a first computer terminal and a second computer terminal comprising:

receiving a plaintext word signal at the first computer terminal;

transforming the plaintext word signal to one or more message block word signals M_A ;

encoding each of the message block word signals M_A to produce a ciphertext word signal C_A , whereby $C_A = M_A^e \pmod{n}$, where C_A is a number representative of an encoded form of message word M_A , M_A corresponds to a number representative of a message and $0 \leq M_A \leq n-1$, n is a composite number of the form $n=p*q$, p and q are prime numbers, and e is a number relatively prime to $(p-1)*(q-1)$; and

transmitting the ciphertext word signal C_A to the second computer terminal over a communication channel.

- 2A, Prong One: Recites abstract idea (plenty of math here)

New Example 41

A method for establishing cryptographic communications between a first computer terminal and a second computer terminal comprising:

~~receiving a plaintext word signal at the first computer terminal;~~

~~transforming the plaintext word signal to one or more message block word signals M_A ;~~

encoding each of the message block word signals M_A to produce a ciphertext word signal C_A , whereby $C_A = M_A^e \pmod{n}$, where C_A is a number representative of an encoded form of message word M_A , M_A corresponds to a number representative of a message and $0 \leq M_A \leq n-1$, n is a composite number of the form $n=p*q$, p and q are prime numbers, and e is a number relatively prime to $(p-1)*(q-1)$; and

~~transmitting the ciphertext word signal C_A to the second computer terminal over a communication channel.~~

- 2A, Prong One: Recites abstract idea (plenty of math here)
- 2A, Prong Two: Additional elements (receiving, transforming, transmitting steps) are admitted prior art in the background section, BUT . . .

New Example 41

A method for establishing cryptographic communications between a first computer terminal and a second computer terminal comprising:

receiving a plaintext word signal at the first computer terminal;

transforming the plaintext word signal to one or more message block word signals M_A ;

encoding each of the message block word signals M_A to produce a ciphertext word signal C_A , whereby $C_A = M_A^e \pmod{n}$, where C_A is a number representative of an encoded form of message word M_A , M_A corresponds to a number representative of a message and $0 \leq M_A \leq n-1$, n is a composite number of the form $n=p*q$, p and q are prime numbers, and e is a number relatively prime to $(p-1)*(q-1)$; and

transmitting the ciphertext word signal C_A to the second computer terminal over a communication channel.

- 2A, Prong One: Recites abstract idea (plenty of math here)
- 2A, Prong Two: Additional elements (receiving, transforming, transmitting steps) are admitted prior art in the background section, BUT . . .
- Still eligible at 2A, Prong Two because the combination of additional elements use the mathematical concepts “in a meaningful way beyond a general link to a particular technological environment”

Thank You



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Panel Discussion and Q&A

- Of all of the recent USPTO guidance and actions, what do you think is the most significant?
- What are things that practitioners can do to take advantage of the new patent eligibility guidance and recent case law?
- Do you think we have reached a turning point in patent eligibility jurisprudence?
- Are you concerned that the USPTO's interpretation of eligibility case law is more patent-friendly than the interpretation taken by many District Courts? Is there anything practitioners can do about that?