Drafting Software Patents to Survive Section 101 and AIA Challenges
Anticipating and Minimizing the Risk of 101, 103 Rejections, Recent Court Guidance

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Drafting & Prosecuting Applications to Withstand § 101 and AIA Challenges

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PATENTABLE SUBJECT MATTER

- **35 U.S.C. § 101:**
  - Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

- **35 U.S.C. § 100(b):**
  - The term “process” means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

- **Judicially created exceptions:**
The Supreme Court’s Treatment of 35 U.S.C. § 101
PATENTABLE SUBJECT MATTER

- Trilogy of Supreme Court cases:
GOTTSCHALK V. BENSON (S. CT. 1972)

- Binary Coded Decimals (BCD) to pure binary conversion process
- **Abstract:**
  - “Here the ‘process’ claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure binary conversion.”
- The practical effect of patenting the claimed BCD to binary conversion system would be to patent an idea
- Congress should decide whether computer programs are patentable
Method of updating alarm limits

The only difference between conventional methods and that described in the patent application was the inclusion of a mathematical formula

Point-of-novelty test:

- “Respondent’s process is unpatentable under § 101, not because it contains a mathematical algorithm as one component, but because once that algorithm is assumed to be within the prior art, the application, considered as a whole, contains no patentable invention.”
Process for molding rubber

- “We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula. We recognize, of course, that when a claim recites a mathematical formula (or scientific principle or phenomenon of nature), an inquiry must be made into whether the claim is seeking patent protection for that formula in the abstract.”

Review claim as a whole, no dissection:

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

Reject point-of-novelty test:

- “The ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the §101 categories of possibly patentable subject matter.”
The Machine-or-Transformation Test:
- “a claimed process is patent eligible if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.”

M-O-T is not the sole test for determining patent eligibility, instead it is "a useful and important clue, an investigative tool.”

Abstract Idea Analysis:
- Preemption: “The concept of hedging . . . is an unpatentable abstract idea . . . . Allowing [Bilski] to patent risk hedging would preempt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.”
- Limiting an abstract idea to one field of use or adding token post-solution components is not enough

Back to the Wild West:
- “And nothing in today’s opinion should be read as endorsing interpretations of §101 that the [Fed. Cir.] has used in the past.”
Appeal following post-Bilski GVR
Claims directed to a drug administration process
“to transform an unpatentable law of nature into a patent-eligible application of such law, one must do more than simply state the law of nature while adding the words ‘apply it.’”
Patents should not be upheld where the claim too broadly preempts the use of the natural law
Court dissected the claim elements:
  • “To put the matter more succinctly, the claims inform a relevant audience about certain laws of nature; any additional steps consist of well-understood, routine, conventional activity already engaged in by the scientific community”
“Other cases offer further support for the view that simply appending conventional steps, specified at a high level of generality, to laws of nature, natural phenomena, and abstract ideas cannot make those laws, phenomena, and ideas patentable.”

Point-of-novelty test?
- “We recognize that, in evaluating the significance of additional steps, the §101 patent-eligibility inquiry and, say, the §102 novelty inquiry might sometimes overlap. But that need not always be so.”

The M-O-T test does not trump the law of nature exclusion

The proper role of §101:
- The Court rejected the Government’s argument that virtually any step beyond the law of nature should render the claim patent-eligible under §101, because §§102, 103, and 112 are sufficient to perform the screening function.
ALICE V. CLS
(S. CT. 2014)

- **Issue:**

- **Unanimous decision**

- **Invention:** Mitigating settlement risk

- **High level points:**
  - Court dissected claims and considered them as an ordered whole
  - System and C-R medium claims fell with method claims
  - Point-of-novelty test?
Court’s concern is with preemption

Must distinguish between the “building blocks of human ingenuity and those that integrate the building blocks into something more” rendering them patent eligible.
ALICE V. CLS (CONT’D)

- Used *Mayo* framework:
  1. Determine whether claims are directed to a law of nature, natural phenomena, or abstract idea;
  2. If so, then ask “What else is there in the claims before us?”
    - Consider elements of claim individually and as an ordered combination to determine if the additional elements “transform the . . . claim into patent-eligible” subject matter.
    - This is a “search for an ‘inventive concept’ . . . An element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon” the abstract idea.
ALICE V. CLS (CONT’D)

- **Step one:**
  - The Court refers to two books and states:
    - The claims are drawn to the “abstract idea” of intermediated settlement, which is a fundamental concept
    - It “is a building block of the modern economy”
  - Compared to *Bilski*:
    - Like *Bilski*’s hedging, intermediated settlement is an abstract idea.
    - “In any event, we need not labor to delimit the precise contours of the ‘abstract ideas’ category in this case. It is enough to recognize that there is no meaningful distinction between the concept of risk hedging in *Bilski* and the concept of intermediated settlement at issue here.”
  - No clear guidance
Step two:

- A claim that recites an abstract idea must include “additional features” to ensure “that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].”
- Per *Mayo*, need more than “apply it.”
- The computer implementation must supply the necessary “inventive concept” – what does “inventive concept” mean?
• Mere recitation of a generic computer is not enough
• Nor is limiting the claim to a technological environment
• “[T]he relevant question is whether the claims here do more than simply instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer. They do not.”
Step two (cont’d):

- The claim elements separately are “purely conventional”
- “In short, each step does no more than require a generic computer to perform generic computer functions.”
- Considered as an ordered combination, the claims “simply recite the concept of intermediated settlement as performed by a generic computer.”
  - They do not improve the functioning of the computer itself
  - “Nor do they effect an improvement in any other technology or technical field.”
  - Safe harbors?
System and C-R Medium Claims

- “Petitioner conceded below that its media claims rise or fall with its method claims.”
- System claims
  - Purely functional and generic
  - None of the hardware recited “offers a meaningful limitation beyond generally linking” the method to a “particular technological environment” – implementation on a computer
  - “Put another way, the system claims are no different from the method claims in substance.”
The Federal Circuit’s Post-\textit{Alice} Treatment of 35 U.S.C. § 101
Holding:
• Claims valid under § 101
• Affirmed the district court’s denial of the motion for JMOL of invalidity under § 101

Rationale:
• The panel found it difficult to determine the abstract idea:
  ◆ “[I]dentifying the precise nature of the abstract idea is not as straightforward as in Alice or some of our other recent abstract idea cases.”
• The panel held that the claims satisfied the Mayo/Alice step two:
  ◆ “[T]hese claims stand apart because they do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.”
Holding:
- Reversed the district court’s grant of summary judgment and found the claims patent eligible

Rationale:
- The panel held that the district court erred in finding that the claims were directed to an abstract idea:
  - “The district court concluded that the claims were directed to the abstract idea of ‘storing, organizing, and retrieving memory in a logical table’ or, more simply, ‘the concept of organizing information using tabular formats.’”
  - “[W]e find that the claims at issue in this appeal are not directed to an abstract idea within the meaning of Alice. Rather, they are directed to a specific improvement to the way computers operate, embodied in the self-referential table.”
  - “Here, the claims are not simply directed to any form of storing tabular data, but instead are specifically directed to a self-referential table for a computer database.”
  - “[T]he claims are directed to a specific implementation of a solution to a problem in the software arts.”
Discussion of step 1 to the *Alice* inquiry:

- “We do not read *Alice* to broadly hold that all improvements in computer-related technology are inherently abstract and, therefore, must be considered at step two. Indeed, some improvements in computer-related technology when appropriately claimed are undoubtedly not abstract, such as a chip architecture, an LED display, and the like. Nor do we think that claims directed to software, as opposed to hardware, are inherently abstract and therefore only properly analyzed at the second step of the Alice analysis. Software can make non-abstract improvements to computer technology just as hardware improvements can, and sometimes the improvements can be accomplished through either route.”

- “[W]e find it relevant to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the Alice analysis.”

- “[T]he first step in the Alice inquiry in this case asks whether the focus of the claims is on the specific asserted improvement in computer capabilities (i.e., the self-referential table for a computer database) or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.”
Claim 17:

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

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

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

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

means for indexing data stored in said table.
Holding:
• Claims invalid under § 101

Rationale:
• The panel held that the claims were directed to an abstract idea:
  ❖ “[T]he claims here are not directed to a specific improvement to computer functionality. Rather, they are directed to the use of conventional or generic technology in a nascent but well-known environment, without any claim that the invention reflects an inventive solution to any problem presented by combining the two. … [T]he claims, as noted, are simply directed to the abstract idea of classifying and storing digital images in an organized manner.”

• The panel held that the claims did not contain an inventive concept:
  ❖ “[T]he claims' recitation of a ‘telephone unit,’ a ‘server’, an ‘image analysis unit,’ and a ‘control unit’ fail to add an inventive concept sufficient to bring the abstract idea into the realm of patentability.”
Claim 17:

A method for recording and administering digital images, comprising the steps of:

recording images using a digital pick up unit in a telephone unit,

storing the images recorded by the digital pick up unit in a digital form as digital images,

transmitting data including at least the digital images and classification information to a server, wherein said classification information is prescribable by a user of the telephone unit for allocation to the digital images,

receiving the data by the server,

extracting classification information which characterizes the digital images from the received data, and

storing the digital images in the server, said step of storing taking into consideration the classification information.
BASCOM GLOBAL INTERNET SERVS. V. AT&T MOBILITY LLC, 2016 WL 3514158 (FED. CIR. JUNE 27, 2016)

- **Holding:**
  - Vacated and remanded the district court’s dismissal under 12(b)(6)

- **Rationale:**
  - The panel held that the claims were directed to an abstract idea:
    - “[T]he claims of the ‘606 patent are directed to the abstract idea of filtering content, . . .”
  - The panel held that the district court erred in finding that the claims did not contain an inventive concept in the ordered combination of limitations:
    - “We agree with the district court that the limitations of the claims, taken individually, recite generic computer, network and Internet components, none of which is inventive by itself.”
    - “BASCOM has alleged that an inventive concept can be found in the ordered combination of claim limitations that transform the abstract idea of filtering content into a particular, practical application of that abstract idea. We find nothing on this record that refutes those allegations as a matter of law or justifies dismissal under Rule 12(b)(6).”
Claim 1:

A content filtering system for filtering content retrieved from an Internet computer network by individual controlled access network accounts, said filtering system comprising:

- a local client computer generating network access requests for said individual controlled access network accounts;
- at least one filtering scheme;
- a plurality of sets of logical filtering elements; and
- a remote ISP server coupled to said client computer and said Internet computer network, said ISP server associating each said network account to at least one filtering scheme and at least one set of filtering elements, said ISP server further receiving said network access requests from said client computer and executing said associated filtering scheme utilizing said associated set of logical filtering elements.
Holding:

- Vacated and remanded the district court’s grant of summary judgment that the claims were invalid under § 101

Rationale:

- The panel held that the district court erred in finding that the claims were directed to a law of nature:
  - “The district court identified in these claims what it called a ‘natural law’—the cells’ capability of surviving multiple freeze-thaw cycles.”
  - “We need not decide in this case whether the court's labeling is correct. It is enough in this case to recognize that the claims are simply not directed to the ability of hepatocytes to survive multiple freeze-thaw cycles. Rather, the claims of the '929 patent are directed to a new and useful laboratory technique for preserving hepatocytes. This type of constructive process, carried out by an artisan to achieve ‘a new and useful end,’ is precisely the type of claim that is eligible for patenting.”
Holding:
- Claims valid under § 101

Rationale:
- The panel held that the claims were not directed to an abstract idea:
  - “The claimed rules [speech to lip synchronization/facial expressions] here, however, are limited to rules with certain common characteristics, i.e., a genus. … We therefore look to whether the claims in these patents focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.”
  - “By incorporating the specific features of the rules as claim limitations, claim 1 is limited to a specific process for automatically animating characters using particular information and techniques and does not preempt approaches that use rules of a different structure or different techniques. When looked at as a whole, claim 1 is directed to a patentable, technological improvement over the existing, manual 3-D animation techniques. The claim uses the limited rules in a process specifically designed to achieve an improved technological result in conventional industry practice. Claim 1 … Is not directed to an abstract idea.”
Claim 1:

A method for automatically animating lip synchronization and facial expression of three dimensional characters comprising:

- obtaining a first set of rules that define output morph weight set stream as a function of phoneme sequence and time of said phoneme sequence;
- obtaining a timed data file of phonemes having a plurality of sub-sequences;
- generating an intermediate stream of output morph weight sets and a plurality of transition parameters between two adjacent morph weight sets by evaluating said plurality of sub-sequences against said first set of rules;
- generating a final stream of output morph weight sets at a desired frame rate from said intermediate stream of output morph weight sets and said plurality of transition parameters; and
- applying said final stream of output morph weight sets to a sequence of animated characters to produce lip synchronization and facial expression control of said animated characters.
Holding:
• Claims of four patents found not invalid under § 101

Rationale:
• Assumed the existence of an abstract idea:
  ❖ “For argument’s sake we accept the district court’s view of the disqualifying abstract ideas”
• Claims found valid in light of specification:
  ❖ “The dissent concedes that the written description discloses a network monitoring system ‘eligible for patenting….’ We agree. Unlike the dissent, however, we find the claims at issue, understood in light of that written description, to be eligible for patenting.”
  ❖ “[W]e construed ‘enhance’ as being dependent upon the invention’s distributed architecture.”
  ❖ “As explained in the patent, the distributed enhancement was a critical advancement over the prior art.”
Claim 1 of ’065 Patent:
1. A computer program product embodied on a computer readable storage medium for processing network accounting information comprising:
   - computer code for receiving from a first source a first network accounting record;
   - computer code of correlating the first network accounting record with accounting information available from a second source; and
   - computer code for using the accounting information with which the first network accounting record is correlated to enhance the first network accounting record.
THALES VISIONIX V. UNITED STATES, NO. 2015-5150 (FED. CIR. March 8, 2017)

- **Holding:**
  - Claims valid under § 101

- **Rationale:**
  - The panel held that the claims were not directed to an abstract idea:
    - The claims of the '159 patent are "nearly indistinguishable" from those of *Diehr* for purposes of the § 101 inquiry.
    - "[T]he claims are directed to systems and methods that use inertial sensors in a non-conventional manner to reduce errors in measuring the relative position and orientation of a moving object on a moving reference frame." In the Court's view, the invention applied laws of physics to solve this problem, and the mere presence of a mathematical equation in the solution "does not doom the claims to abstraction." Therefore, the claims are not directed to an abstract idea, and the Court did not have to proceed to part two of *Alice.*"
Claim 1 of ’159 Patent:

1. A system for tracking the motion of an object relative to a moving reference frame, comprising:
   a first inertial sensor mounted on the tracked object;
   a second inertial sensor mounted on the moving reference frame; and
   an element adapted to receive signals from said first and second inertial sensors and configured to determine an orientation of the object relative to the moving reference frame based on the signals received from the first and second inertial sensors.
Holding:
- Rule 12(b)(6) dismissal was improper because the claims are not directed to patent ineligible subject matter under § 101

Rationale:
- The panel held that the claims were not directed to an abstract idea:
  - “[T]he key question is whether the focus of the claims is on the specific asserted improvement in computer capabilities…or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.”
  - The claims “are directed to a technological improvement: an enhanced computer memory system,” and, more specifically to “[c]onfiguring the memory system based on the type of processor connected to the memory system.”
  - The claims “do not simply require a ‘programmable operational characteristic’ but require “a memory system with a main memory and a cache, … where the memory system is configured by a computer to store a type of data in the cache memory based on the type of processor connected to the memory system.”
Claim 1 of ’740 Patent:

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

   a main memory connected to said bus; and
   a cache connected to said bus;

   wherein a programmable operational characteristic of said system determines a type of data stored by said cache.
SECURED MAIL SOLUTIONS LLC V. UNIVERSAL WILDE, INC., NO. 2016-1728 (FED. CIR. October 16, 2017)

- **Holding:**
  - Claims invalid under § 101

- **Rationale:**
  - The panel held that the claims were directed to an abstract idea, and do not amount to significantly more:
    - “The claims embrace the abstract idea of using a marking affixed to the outside of a mail object to communicate information about the mail object, i.e., the sender, recipient, and contents of the mail object.”
    - “The claim language does not provide any specific showing of what is inventive about the identifier or about the technology used to generate and process it … the sender-generated identifier is not a sufficiently inventive concept.”
Claim 1 of ’268 Patent (Intelligent Mail Barcode patents):

1. A method of verifying mail identification data, comprising:
   - affixing mail identification data to at least one mail object, said mail identification data comprising a single set of encoded data that includes at least a unique identifier, sender data, recipient data and shipping method data, wherein said unique identifier consists of a numeric value assigned by a sender of said at least one mail object;
   - storing at least a verifying portion of said mail identification data;
   - receiving by a computer at least an authenticating portion of said mail identification data from at least one reception device via a network, wherein said authenticating portion of said mail identification data comprises at least said sender data and said shipping method data; and
   - providing by said computer mail verification data via said network when said authenticating portion of said mail identification data corresponds with said verifying portion of said mail identification data.
Holding:
• Claims invalid under § 101

Rationale:
• The panel held that the claims were directed to an abstract idea and do not recite an inventive concept:
  - The Court found that the “patents involve acquiring identification data from a bankcard, using the data to verify the validity of the bankcard, and denying access to a transit system if the bankcard is invalid.”
  - “Stripped of the technical jargon that broadly describe non-inventive elements (e.g., the “interfaces” and “processing systems”), and further shorn of the typically obtuse syntax of patents, the patents here really only cover an abstract concept: paying for a subway or bus ride with a credit card.”
  - The claims “are not directed to a new type of bankcard, turnstile, or database, nor do the claims provide a method for processing data that improves existing technological processes. Rather, the claims are directed to the collection, storage, and recognition of data.”
  - “We agree with the District Court that the Asserted Claims recite the abstract idea of collecting financial data using generic computer components.”
Claim 14 of ’003 Patent:

14. A method for validating entry into a first transit system using a bankcard terminal, the method comprising:

   downloading, from a processing system associated with a set of transit systems including the first transit system, a set of bankcard records comprising, for each bankcard record in the set, an identifier of a bankcard previously registered with the processing system, and wherein the set of bankcard records identifies bankcards from a plurality of issuers;

   receiving, from a bankcard reader, bankcard data comprising data from a bankcard currently presented by a holder of the bankcard, wherein the bankcard comprises one of a credit card and a debit card;

   determining an identifier based on at least part of the bankcard data from the currently presented bankcard;

   determining whether the currently presented bankcard is contained in the set of bankcard records;

   verifying the currently presented bankcard with a bankcard verification system, if the bankcard was not contained in the set of bankcard records; and

   denying access, if the act of verifying the currently presented bankcard with the bankcard verification system results in a determination of an invalid bankcard.
Holding:

• Claims invalid under § 101

Rationale:

• The panel held that the claims were directed to an abstract idea and do not recite an inventive concept:
  
  ❖ “We look to whether the claims in the patent focus on a specific means or method, or are instead directed to a result or effect that itself is the abstract idea and merely invokes generic processes and machinery.”

  ❖ “The claim requires the functional results of converting, routing, controlling, monitoring, and accumulating records, but does not sufficiently describe how to achieve these results in a non-abstract way.”

  ❖ “The main problem that Two-Way Media cannot overcome is that the claim—as opposed to something purportedly described in the specification—is missing an inventive concept.”

  ❖ “Nothing in the claims … requires anything other than conventional computer and network components operating according to their ordinary functions.”

  ❖ “The claim uses a conventional ordering of steps—first processing the data, then routing it, controlling it, and monitoring its reception—with conventional technology to achieve its desired result.”
Claim 1 of ’187 Patent:

1. A method for transmitting message packets over a communications network comprising the steps of:
   - converting a plurality of streams of audio and/or visual information into a plurality of streams of addressed digital packets complying with the specifications of a network communication protocol,
   - for each stream, routing such stream to one or more users, controlling the routing of the stream of packets in response to selection signals received from the users, and monitoring the reception of packets by the users and accumulating records that indicate which streams of packets were received by which users, wherein at least one stream of packets comprises an audio and/or visual selection and the records that are accumulated indicate the time that a user starts receiving the audio and/or visual selection and the time that the user stops receiving the audio and/or visual selection.
Holding:

- Claims invalid under § 101

Rationale:

- The panel held that the claims were directed to an abstract idea and do not recite an inventive concept:
  - “There is no uncertainty or difficulty in applying the principles set out in Alice to reach the conclusion that the ... claims are ineligible.”
  - The claims do not “require us to engage in a difficult line-drawing exercise for a claimed invention resting on, or anywhere near, the margins of patent-eligibility; rather, the patent claims here are directed to a fundamental economic practice [paying for a remote seller’s items at a third-party’s local establishment], which Alice made clear is, without more, outside the patent system ... In addition, here, as in Alice, the patentee is attempting to broadly monopolize an abstract idea as implemented using generic computer technology. IH’s asserted claims were plainly invalid in view of Alice and its reasoning.”
Claim 8 of ’582 Patent:

8. A method of processing a payment for a purchase of goods, comprising the steps of:
   
   receiving at a point-of-sale system a code relating to a purchase of goods;
   
   determining if said code relates to a local order or to a remote order from a remote seller;
   
   if said code relates to a remote order, then
   
   determining a price for said remote order,
   receiving a payment for said remote order, and
   transmitting to said remote seller data indicating that said payment has been received for said remote order.
FINJAN, INC. V. BLUE COAT SYS. INC., NO. 2016-2520 (FED. CIR. January 10, 2018)

- **Holding:**
  - Claims valid under § 101

- **Rationale:**
  - The panel held that the claims were not directed to an abstract idea:
    - Regarding step one: “In cases involving software innovations, this inquiry often turns on whether the claims focus on ‘the specific asserted improvement in computer capabilities … or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.”
    - “The question, then, is whether this behavior-based virus scan … constitutes an improvement to computer functionality. We think it does.”
    - The Fed Cir stated that behavior-based virus scanning was an improvement over prior art code-based approaches and enabled “a computer security system to do things it could not do before.”
Claim 1 of ’844 Patent:

1. A method comprising:

receiving by an inspector a Downloadable;

generating by the inspector a first Downloadable security profile that identifies suspicious code in the received Downloadable; and

linking by the inspector the first Downloadable security profile to the Downloadable before a web server makes the Downloadable available to web clients.
Denied Certiorari on § 101

- In October 2017, the Supreme Court denied Certiorari in three pending patent cases:
  - Synopsys, Inc. v. Mentor Graphics Corporation
  - Arunachalam v. SAP America, Inc.
  - Oleksy v. General Electric Co.
CONCLUSIONS/SUGGESTIONS

- **STEP 1:** Does the claim improve functioning of the computer itself? *(Enfish, Finjan)*
- **STEP 2:** Are conventional elements arranged in a nonconventional way? *(BASCOM)*
- Does the claim recite a technical solution to a technical problem? *(DDR)*
- Is the claim preemptive? *(Ariosa, Return mail, but see MCRO)*
- Does the claim improve over the prior art? *(MCRO, Finjan, but IV v. Symantec)*
- Is the claim merely data gathering, analysis and display? *(Elec. Pwr. Group, TDE Petroleum, Clarilogic)*
The USPTO’s Post-Alice Treatment of 35 U.S.C. § 101
2014 INTERIM GUIDANCE ON PATENT SUBJECT MATTER ELIGIBILITY

- Supplements the June 25, 2014 Preliminary Instructions
- Supersedes the March 4, 2014 Procedures for Subject Matter Eligibility Analysis of Claims Reciting or Involving Laws of Nature/Natural Principles, Natural Phenomena, and/or Natural Products
- Supersedes MPEP §§ 2106(II)(A), 2106(II)(B), and 2106.01
- Supersedes MPEP § 2105 to the extent that the section suggests that “mere human intervention” necessarily results in eligible subject matter
2014 INTERIM GUIDANCE ON PATENT SUBJECT MATTER ELIGIBILITY

(Step 1)
Is the claim to a process, machine, manufacture or composition of matter?

YES

(Step 2A) [PART 1 Mayo test]
Is the claim directed to a law of nature, a natural phenomenon, or an abstract idea (judicially recognized exceptions)?

NO

YES

(Step 2B) [PART 2 Mayo test]
Does the claim recite additional elements that amount to significantly more than the judicial exception?

YES

Claim qualifies as eligible subject matter under 35 USC 101

NO

Claim is not eligible subject matter under 35 USC 101
SAFE HARBORS

- “Significantly More” Considerations
  - Improvements to another technology or technical field
  - Adding a specific limitation other than what is well-understood, routine and conventional in the field, or adding unconventional steps that confine the claim to a particular useful application
  - Other meaningful limitations beyond generally linking the use of the judicial exception to a particular technological environment
JULY 2015 UPDATE ON SUBJECT MATTER
ELIGIBILITY – 80 FR 45429

- Showing lack of preemption not enough to overcome 101 rejection
- Examiners given power similar to “judicial notice”
  - Need to provide evidence to establish what is old and well-known in the claims
- New examples help in determining an “abstract idea”
  - Useful examples to show what passes muster under the significantly more test
- There is still no clear definition of an “abstract idea”
  - PTO provides categories of abstract ideas (i.e., organizing human activities)
- Rise of the “technical effect” test?
• Showing lack of preemption not enough to overcome 101 rejection
  – “[W]hile a preemptive claim may be ineligible, the absence of complete preemption does not guarantee that a claim is eligible.”
  – Need to show that a claim clearly does not preempt the abstract idea that the claim is eligible for streamlined analysis
  – Participate in the First Action Interview program to present § 101 related arguments to the examiner before a § 101 rejection is ever made
Examiners given power similar to “judicial notice”

- Examiner does not have to provide evidence of what is “well-understood, routine, and conventional”
- Applicants will have little recourse to argue with the examiner regarding what is “generally known in the art”
New examples help in determining an “abstract idea”

- Example 21 compares and contrasts hypothetical software claims
- Examples 22 and 23 are directed to GUIs and show the level of detail needed to distinguish patent eligible claims
- Example 27 provides streamlined eligibility analysis for a claim directed to remote access and storage of computer control software
Rise of the “technical effect” test?

- Example 21 provides “additional limitations” that transform the claim from “a generic computer performing generic computer functions” to “an ordered combination” that addresses an “Internet-centric challenge”

- Examples 23 and 25 also refer to an “ordered combination” that renders the claim patent eligible

  - As a whole, the claims contain language affixing the method to a particular technology area and cause a particular technical effect
  - Showed that the claim “demonstrate[d] an improvement in the field” or “improve[d] the functioning” of the computer itself
Outlines recent USPTO memorandums and guidance

Establishes an open-ended comment period on subject matter eligibility

- “The USPTO is now seeking public comment on subject matter eligibility on an on-going basis.”
- “The comment period is open-ended, and comments will be accepted on an ongoing basis.”
- “The USPTO is particularly interested in public comments addressing the progress the USPTO is making in the quality of correspondence regarding subject matter eligibility rejections.”
Subject: Formulating a Subject Matter Eligibility Rejection and Evaluating the Applicant’s Response to a Subject Matter Eligibility Rejection

- Formulating a § 101 Rejection
  - When making a rejection, identify and explain the judicial exception recited in the claim (Step 2A)
  - When making a rejection, explain why the additional claim elements do not result in the claim as a whole amounting to significantly more than the judicial exception (Step 2B)
  - Examples should not be relied upon in § 101 rejections
Subject: Formulating a Subject Matter Eligibility Rejection and Evaluating the Applicant’s Response to a Subject Matter Eligibility Rejection

- Evaluating Applicant’s Response
  - If the examiner’s abstract idea determination is challenged: (1) withdraw rejection or (2) provide comparison to Supreme Court or Federal Circuit case
  - If the examiner’s determination that something is well-known is challenged: (1) withdraw rejection or (2) consider whether rebuttal evidence should be provided
Subject: Recent Subject Matter Eligibility Decisions
(Enfish, LLC v. Microsoft Corp. and TLI Communications LLC v. A.V. Automotive, LLC)

- “[W]hen performing an analysis of whether a claim is directed to an abstract idea (Step 2A), examiners are to continue to determine if the claim recites (i.e., sets forth or describes) a concept that is similar to concepts previously found abstract by the courts.”

- “The fact that a claim is directed to an improvement in computer-related technology can demonstrate that the claim does not recite a concept similar to previously identified abstract ideas.”
Subject: Recent Subject Matter Eligibility Rulings
(Rapid Litigation Management v. CellzDirect and
Sequenom v. Ariosa)

- “[T]he USPTO’s current subject matter eligibility guidance and
  training examples are consistent with the Federal Circuit's
  panel decisions in Rapid Litigation Management and
  Sequenom.”

- “Life sciences method claims should continue to be treated in
  accordance with the USPTO’s subject matter eligibility
  guidance (most recently updated in May of 2016).”
Subject: Recent Subject Matter Eligibility Decisions (McRO and BASCOM)

- “An ‘improvement in computer-related technology’ is not limited to improvements in the operation of a computer or a computer network *per se*, but may also be claimed as a set of ‘rules’ (basically mathematical relationships) that improve computer-related technology by allowing computer performance of a function not previously performable by a computer.”

- USPTO acknowledged that the Federal Circuit emphasized the patent’s specification, particularly that the Court relied on “the specification’s explanation of how the claimed rules enabled the automation of specific animation tasks that previously could not be automated when determining that the claims were directed to improvements in computer animation instead of an abstract idea.”
Subject: Recent Subject Matter Eligibility Decisions (McRO and BASCOM)

- “[T]he claims at issue described a specific way (use of particular rules to set morph weights and transitions through phonemes) to solve the problem of producing accurate and realistic lip synchronization and facial expression in animated characters, rather than merely claiming the idea of a solution or outcome.”

- “If an examiner still determines that the claim is directed to a judicial exception, the examiner should then reconsider in Step 2B of the eligibility analysis whether the additional elements in combination (as well as individually) are more than the non-conventional and non-generic arrangement of known, conventional elements.”
USPTO has taken the position that using a computer to perform a task that produces an otherwise-unobtainable result can be eligible if the steps to perform the task are well-specified.

Non-precedential decisions

- “[E]xaminers should avoid relying upon or citing non-precedential decisions (e.g., *SmartGene*, *Cyberfone*) unless the facts of the application under examination uniquely match the facts at issue in the non-precedential decision.”
PRACTICE TIPS

- Overcoming a § 101 Rejection at the USPTO
  - Provide specificity to the claims
    - Include claim limitations that establish a basis of patentability that is separate from the abstract idea
    - Describe the key inventive steps/elements with specificity
    - Use the specification and prosecution history to demonstrate how the claimed invention improves upon the prior art
1. Rely on the underlying mathematical nature of the rules to demonstrate non-preemption. It is the incorporation of the claimed rules, not use of the computer that “improved the existing technological process.” Preemption should be based on the objective perspective of the POSITA not a lay court or patent examiner.

2. The improvement need not be in the functioning of the computer. Improvements in computer tools that make them easier to use or that save user’s effort or time or otherwise improve their performance, are all sufficient “improvements” under Mayo.
3. The invention improved the result as experienced by the user. It improved the design framework in the tools used to create the product.

4. McRo pushes back on the mental steps doctrine. The rules applied in the algorithm were different from what animators did manually.

5. Eligibility does not require tangibility. MOT is but a clue to patent eligibility, but is not the only test per *Bilski*. 
6. Focus on the claims as a whole with the limitations working and don’t dissect the limitations into conventional steps.

7. Distinguish *SmartGene v. Advanced Biological Labs* by claiming the rules that were not used by conventional users.
1. Ensure claims represent an unconventional technical solution narrowly tailored to address a technological problem.

2. Include a complete description of the technical problem and solution in the specification especially if 101 may be of concern.

3. Providing additional structural elements (even if generic) may help in an eligibility determination if the arrangement of the elements represents a unique approach that is beneficial over the art.

4. Reciting “computer code for” doing something specific may help support eligibility.
5. When writing computer program product claims, recite the elements in the body of the claim as computer code-plus-function limitations (In re Beauregard, 53 F.3d 1583 (Fed. Cir. 1995) rather than recite the elements in the body of the claim as method steps (CyberSource v. Retail Decisions, 654 F.3d 1366 (Fed. Cir. 2011)). By doing so, it requires the decision-maker to interpret the claim limitations by reading in the corresponding structure and function from the specification when determining subject matter eligibility.
Consistent with *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), the Appellants explain how “[t]he improvement over existing solutions in the field of electric vehicle charging is in the form of an energy transaction plan which is explicitly used to control aspects of the electric vehicle charging transaction.” (Reply Br. 4); that is, “[t]he energy transaction plan is a particular object which did not exist previously but is created by an implementation of the claimed method.

The energy transaction plan is a synthesized object comprising particular elements including an identification of the electric vehicle, an identification of a principle in the set of principles to pay for the charging transaction, an identification of at least one electric power provider associated with the charging transaction, an owner of the charging station, charging transaction time driven event sequences that indicate the electric flow direction relative to the electric vehicle and rate of flow at each of a time mark and that specifies start and end times for the charging transaction. The energy transaction plan is accordingly a "logical controller" used to control each of charging, discharging, and storing operations with the electric vehicle, and includes terms of the charging transaction to account for each of charging, discharging, and storing electric power. The "controller" aspect of the energy transaction plan is accordingly used to maximize, minimize, or optimize each preference in accordance with the weighting value assigned to each preference, to control charging, discharging, and storing electric power. An implementation of the claimed method to produce the energy transaction plan effectively transforms the computer on which the method is implemented and the plan materialized into an electric power charging, discharging, and storing controller.
The software-related language in the claims, as we have already pointed out for claim 1, reflects what the Appellants are arguing. See Trading Technologies International v. CQG Inc. (Fed. Cir., 2016-1616, 1/18/2017).

For some computer-implemented methods, software may be essential to conduct the contemplated improvements. [Enfish LLC v. Microsoft Corp., 822 F.3d 1327, 1339 (Fed. Cir. 2016)](“Much of the advancement made in computer technology consists of improvements to software that, by their very nature, may not be defined by particular physical features but rather by logical structures and processes.”). Abstraction is avoided or overcome when a proposed new application or computer-implemented function is not simply the generalized use of a computer as a tool to conduct a known or obvious process, but instead is an improvement to the capability of the system as a whole.

*Id.* at 1336.
Holding:
• The Examiner erred with respect to the rejection under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter

Rationale:
• The panel held that the claims were directed to an abstract idea, but recite significantly more:
  ❖ “We agree with the Examiner that the claims … are directed to the abstract idea of generating a verification value in response to a transaction, which we find to be an economic practice.”
  ❖ “We find the claimed transaction authentication, while abstract itself, improves the underlying technology involved with fraud-prevention, and therefore adds "significantly more" than merely implementing the abstract idea of generating a verification value.”
Claim 9:

1. A method for conducting a transaction, comprising:
   generating, by a portable consumer device, a verification value in response to a transaction involving an access device;
   sending, by the portable consumer device, the verification value and a portion of a first dynamic data element to the access device, the portion of the first dynamic data element including data included in a fixed position of the first dynamic data element, the verification value being different from the portion of the first dynamic data element; and
   communicating, by the access device, the verification value and the portion of the first dynamic data element to a service provider computer;

   wherein the service provider computer determines a plurality of candidate dynamic data elements using the portion of the first dynamic data element in response to determining that the verification value does not match a second verification value independently generated by the service provider computer, determines a plurality of candidate verification values from the plurality of candidate dynamic data elements, and determines whether the verification value matches any of the plurality of candidate verification values;

   wherein, each of the plurality of candidate verification values is unique to a corresponding candidate dynamic data element of the plurality of candidate dynamic data elements; and

   wherein the transaction is thereafter authenticated when the verification value matches any of the plurality of candidate verification values.
GLOBAL TEL LINK CORP. V. SECURUS TECHNOLOGIES INC., CASES CBM 2017-00043 AND CBM 2017-00044 (PTAB October 2, 2017)

- **Holding:**
  - Denied Institution of Covered Business Method Patent Review 37 C.F.R. § 42.208

- **Rationale:**
  - The panel held that:
    - (1) the patents are eligible for review under the transitional program for covered business method patents; but (2) there is no showing that it is more likely than not that the claims are directed to patent ineligible subject matter under 35 U.S.C. §101.
    - Each of the patented inventions is “not sufficient to constitute a technological invention exempt from covered business method patent review,” in the first part of the analysis, and that each of the patented inventions indeed “recite [a] technological invention,” under the second part of the analysis.
The PTAB agreed with the Patent Owner that the Petitioner “does not explain sufficiently ‘how any human could possible implement the claimed systems or perform the claimed method without interacting with numerous discrete features of a computer network and telephone system.’”

The PTAB also concurred with the Patent Owner’s assertion that “the inventive solution used telecommunication means that combined various systems into one computer-based system using VoIP data links, call processing gateways to interface with multiple facilities, and as an external interface with a telephone carrier network to connect calls.”

In view of the above, the PTAB concluded that the Petitioner failed to “demonstrate that it is more likely than not, that the claims ‘merely apply a fundamental economic practice or mathematical equation to a general-purpose computer.’”
Practice Tips for Drafting and Prosecuting Applications to Withstand AIA Challenges

1. Prepare robust specification that provides clear basis for broadest reasonable interpretation of the claims as well as 112 support for the claims.

2. Consider drafting definitions for terms to address concerns about known prior art.

3. Determine the necessity of each term in the claims.

4. Include a statement of the inventive concept as well as how the claimed invention provides a technical solution to a technical problem, improved the way a computer functions, employs new rules that improve the user experience that were not old and well-know, in the art, demonstrate a new arrangement of old elements, apply improvements from one field of technology to another and employ non-generic computer elements.
5. Present a range of claims from the broadest entitled to cover competitor’s technology the narrowest willing to accept to avoid the prior art.

6. Focus claims on literal infringement.

7. Use specification to describe how claims will be infringed.

8. Present focused claims to all aspects of the inventions described in the specification that may include system, subsystem, components, methods of making, methods of use, species, means plus function and CRM claims written in means plus function format or that reconfigure computer memory.

9. Examiner restriction requirements help reduce patent owner estoppel when filing divisional applications.
10. Define claim terms clearly and judiciously and use them consistently.

11. Create a prosecution history that supports the claim construction you want from the intrinsic record.

12. Submit ample prior art in IDS for patent examiner consideration to reduce reasonable likelihood of petitioner success from using prior art applied in commonly-owned domestic and foreign application prosecution. This helps in both avoiding institutions and enhances petitioner estoppel opportunities especially based on follow-on challenges

13. Use more patent owner friendly opportunities to offer substitute claims during AIA trials if issued patent fails to claims of intermediate or narrow scope. *In re Aqua Products.*

15. Build up specification and file history.

16. Keep continuing applications pending, but beware of patent owner estoppel. 37 CFR 42.73(d)(3).

17. Use *In re Tanaka* reissue to add dependent claims to prepare patent for IPR attack.