Intellectual Property and Subject Matter Eligibility

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United States Patent and Trademark Office

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Establishing A Regional Presence

The Elijah J. McCoy Midwest Regional Office
Detroit Michigan
USPTO Offices

Detroit
- Operational since July 2012

Denver
- Byron G. Rogers Federal Building
- Operational July 2014

Silicon Valley
- San Jose City Hall Building
- October, 15th, 2015

Dallas
- Terminal Annex Federal Building
- Planned to be operational fall 2015
Outreach services provide:

- **Walk-in services** to obtain information about the USPTO
- **Workstations for searching** patents and trademarks
- **A regional focus** for workshops, conferences and roundtables (at all levels)
- **A hearing room** to host Patent Trial and Appeal Board (PTAB) proceedings and remote access to hearings taking place in Alexandria or at another satellite office
- **Interview room** to connect applicants to patent examiners working in Alexandria and across the country
- **Remote Training Capability** from local experts to patent examiners around the country
Regional Focus for Workshops

- For All Levels – from K-12 to IP professionals
- From basic facts to updates on law and procedure
- Stakeholder roundtables
- Inventor conferences
- Focus on startups
- Tech Specific Partnership Meetings
- International programs
- 1 on 1 assistance
- Co-host programs with strategic community partners
Patent Pro Bono Program

• The America Invents Act (AIA) encourages the United States Patent and Trademark Office (USPTO) to “work with and support intellectual property law associations across the country in the establishment of pro bono programs designed to assist financially under-resourced independent inventors and small businesses.”

Patent and Trademark Resource Centers

• A nationwide network of public, state and academic libraries that are designated by the USPTO to disseminate patent and trademark information and to support intellectual property needs of the public.

• Located in almost every state - http://www.uspto.gov/products/library/ptdl/locations/index.jsp

• PTRC library staff can assist with the following:
  – Provide access to resources PubEAST and PubWEST, examiner-based search systems
  – Explain the application process and fee schedule
  – Demonstrate how to use search tools to conduct a patent or trademark search
  – Share a directory of local patent attorneys who are licensed to practice before USPTO
  – Offer classes on intellectual property (varies by location)
  – Offer assistance on how to do historical research on patents and trademarks
  – Show how to track current research by company or nonprofit
  – Help find assignee information and much more
Types of Intellectual Property
# Overview of Intellectual Property

<table>
<thead>
<tr>
<th></th>
<th>What’s Protected?</th>
<th>Examples</th>
<th>Protection Lasts for:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utility Patent</strong></td>
<td>Inventions</td>
<td>iPod, chemical fertilizer, process of manipulating genetic traits in mice</td>
<td>20 years from the date of filing regular patent application</td>
</tr>
<tr>
<td><strong>Design Patent</strong></td>
<td>Ornamental (non functional) designs</td>
<td>Unique shape of electric guitar, design for a lamp</td>
<td>14 years</td>
</tr>
<tr>
<td><strong>Copyright</strong></td>
<td>Books, photos, music, fine art, graphic images, videos, films, architecture, computer programs</td>
<td>Michael Jackson’s Thriller (music, artwork and video), Windows operating system</td>
<td>The life of the author plus 70 years (or for some works, 95 years from first publication)</td>
</tr>
<tr>
<td><strong>Trade Secret</strong></td>
<td>Formulas, methods, devices or compilations of information which is confidential and gives a business an advantage</td>
<td>Coca-Cola formula, survey methods used by a pollster, new invention for which patent application has not been filed</td>
<td>As long as information remains confidential and functions as a trade secret</td>
</tr>
<tr>
<td><strong>Trademark</strong></td>
<td>Words, symbols, logos, designs, or slogans that identify and distinguish products or services</td>
<td>Coca-Cola name and distinctive logo, Pillsbury doughboy character</td>
<td>As long as business continuously uses trademark in connection with goods or services</td>
</tr>
</tbody>
</table>
Examples of IP in a mobile phone

**Trademarks:**
- Made by "Nokia"
- Product "N95"
- Software "Symbian", "Java"

**Patents:**
- Data-processing methods
- Semiconductor circuits
- Chemical compounds
- Battery/Power Control
- Antenna
- Optics

**Copyrights:**
- Software code
- Instruction manual
- Ringtone

**Trade secrets:**
- ???

**Designs (some of them registered):**
- Form of overall phone
- Arrangement of buttons in oval shape
- Three-dimensional wave form of buttons
- Sliding screen

© Nokia
Definition of a Trademark

• Any word, name, symbol or device (or any combination thereof) used to identify and distinguish goods or services and to indicate their source
What do Trademarks offer?

- Brand recognition – distinguishing goods or services from competitors in the marketplace
- Public notice of ownership - exclusive right to use
- Right to enforce nationally and bring legal action in federal courts
- Use of federal Trademark registration symbol ®
- Right to record mark with Customs
- Serve as basis for foreign filing
- Publication in U.S. Trademark database
Why use a Trade Secret?

Trade Secret Basics:
- Protects commercially valuable proprietary information, e.g., formulas or business information that gives a competitive advantage
- Trade Secrets are not generally known and must be subject to reasonable efforts to preserve confidentiality

Common Ways to Lose a Trade Secret:
- Failure to take adequate steps to prevent disclosure
- Owner or owner-authorized disclosure
- Reverse engineering
- Independent development
What is a Patent?

• A Property Right
  – Right to **exclude others** from making, using, selling, offering for sale or importing the claimed invention
  – Limited term
  – Territorial: protection only in territory that granted patent; **NO world-wide patent**
Why get a Patent?

• A patent can be:
  – Used to gain entry into, and deter others from, a market
  – Used as a marketing tool to promote unique aspects of a product
  – Assert/enforce rights against an infringer or competitor
  – Used as collateral to obtain funding
  – Create revenue – sell or license like other property
IP Strategy is a Business Strategy

- Attractive to investors and buyers
- Deter patent infringement lawsuits
- Can increase leveraging power - i.e. mergers and acquisitions
- Patents are a form of property than can add value to a company’s assets
What is patentable?

NEW, NONOBVIOUS, USEFUL, & CLEARLY DESCRIBED

Method of using

Software

Hardware

Method of making

Improvements thereof
What information should a patent application claim?

Invention

Too Specific

Not valuable

Too General

Not patentable
Subject Matter Eligibility
§ 101 - Inventions Patentable:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Double Patenting  Eligibility  Inventorship  Utility
Judicial Exceptions

• Supreme Court has long held that § 101 *excludes* certain subject matter from patent eligibility:
  – Abstract Ideas
  – Laws of Nature/Natural Principles
  – Natural Phenomena (including Products of Nature/Natural Products)

• These exclusions are called the “judicial exceptions” or “judicially recognized exceptions”
High Level of Recent Supreme Court Activity Regarding Judicial Exceptions

Mayo (2012)  
Myriad (2013)  
Alice Corp. (2014)

Abstract Idea  
Law of Nature  
Product of Nature  
Abstract Idea
Prior 2014 Guidance

• In the wake of the Supreme Court’s *Myriad* decision, the USPTO issued guidance in March 2014
  – Applied to claims that recite or involve laws of nature/natural principles, natural phenomena, and/or natural products
  – Did not apply to claims that recite abstract ideas
  – Superseded July 2012 *Mayo* Guidance

• Following the Supreme Court’s *Alice* decision, the USPTO issued “Preliminary Examination Instructions” in view of *Alice*
  – Applied to claims that are “directed to” an abstract idea
  – Did not apply to claims that solely recite or involve laws of nature/natural principles, natural phenomena, and/or natural products (March 2014 Guidance was still applicable)
The December 16, 2014 Interim Eligibility Guidance
December 2014 Interim Guidance

- USPTO issued the Interim Guidance after careful consideration of feedback from the public and consultation with business groups within the Office (examining corps, Solicitor, PTAB)
  - Explains the USPTO's interpretation of subject matter eligibility requirements in view of *Alice*, *Myriad*, *Mayo*, and the body of Supreme Court and Federal Circuit precedent
  - Sets forth an integrated approach
  - Reflects significant changes from the March 2014 Guidance
  - Provides a straightforward eligibility analysis that promotes examination efficiency and consistency
  - Addresses common themes from the feedback to the extent allowed by controlling case law
§ 101 Subject Matter Eligibility Test for Products and Processes

- Examiners are to:
- Use the broadest reasonable interpretation (BRI) of the claim
- Analyze the claim as a whole
- Practice compact prosecution by fully examining under 35 U.S.C. 102, 103, 112, and 101 (utility, inventorship, and double patenting) and non-statutory double patenting
Step 1: Statutory Categories

- **Step 1**: Is the claim directed to a process, machine, manufacture, or composition of matter?
  - The claim must be directed to one of the four patent-eligible subject matter categories
    - *This step remains the same - see MPEP 2106(I)*
  - If no, the claim is **not eligible** and should be rejected as being drawn to non-statutory subject matter
  - If yes, examiners are to proceed to Step 2
Step 2: Judicial Exceptions

• **Step 2:** This is a two-part analysis to determine whether a claim that is directed to a judicial exception recites additional elements that amount to significantly more than the exception
  
  – This analysis should be used for all claims
    
    • *This step differs from previous guidance*
  
  – MPEP 2106(II) contains a discussion of judicial exceptions
Step 2A:
“Directed to” a Judicial Exception

• **Step 2A:** Is the claim *directed* to a law of nature, a natural phenomenon, or an abstract idea?

  ➢ If no, the claim is **eligible** and examination should continue for patentability

  ➢ If yes, examiners are to proceed to **Step 2B** to analyze whether the claim as a whole amounts to significantly more than the exception

• Claims that are directed to an exception are not necessarily ineligible – they require further analysis to determine eligibility
Step 2A: Laws of Nature/ Natural Phenomena

- The types of concepts that fall under “Laws of Nature” and “Natural Phenomena” include:
  - Naturally occurring principles
    - Physical, chemical or biological principles, for instance
  - Naturally occurring substances
  - Substances that do not have markedly different characteristics compared to what occurs in nature
- Examples:
  - An isolated DNA
  - A correlation that is the consequence of how a certain compound is metabolized by the body
  - Electromagnetism to transmit signals
  - The chemical principle underlying the union between fatty elements and water
Step 2A: Abstract Ideas

- The types of concepts that fall under “Abstract Ideas” have been identified by the courts only by example, and include:
  - Fundamental economic practices
  - Certain methods of organizing human activities
  - Ideas, themselves
  - Mathematical relationships/formulas
Step 2A: Examples of Abstract Ideas

- Mitigating settlement risk
- Hedging
- Creating a contractual relationship
- Using advertising as an exchange or currency
- Processing information through a clearinghouse
- Comparing new and stored information and using rules to identify options
- Comparing a patient’s gene with the wild-type gene, and identifying any differences that arise
- Using categories to organize, store, and transmit information
- Organizing information through mathematical correlations
- Managing a game of Bingo
- The Arrhenius equation for calculating the cure time of rubber
- A formula for updating alarm limits
- A mathematical formula relating to standing wave phenomena
- A mathematical procedure for converting one form of numerical representation to another
Step 2B: Does the Claim as a Whole Amount to Significantly More than the Judicial Exception?

- To determine whether any element, or combination of elements, in the claim is sufficient to ensure that the claim amounts to significantly more than the judicial exception, examiners are to:
  - Analyze each claim as a whole
  - Consider the additional elements claimed with the exception, both individually and as an ordered combination, to ensure that the claim describes a product or process that applies the exception in a meaningful way
  - While this analysis no longer weighs factors, the considerations for significantly more are similar to those in the prior Bilski and Mayo/Myriad guidance
Step 2B: “Significantly More” Considerations

Limitations that may be enough to qualify as “significantly more” when recited in a claim with a judicial exception:

– Improvements to another technology or technical field
– Improvements to the functioning of the computer itself
– Applying the judicial exception with, or by use of, a particular machine
– Effecting a transformation or reduction of a particular article to a different state or thing
– 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
Step 2B: “Significantly More” Considerations

Limitations that were found not to be enough to qualify as “significantly more” when recited in a claim with a judicial exception:

- Adding the words “apply it” (or an equivalent) with the judicial exception, or mere instructions to implement an abstract idea on a computer
- Simply appending well-understood, routine and conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception
- Adding insignificant extrasolution activity to the judicial exception
- Generally linking the use of the judicial exception to a particular technological environment or field of use
Streamlined Eligibility Analysis

• For purposes of efficient examination, examiners may use a streamlined analysis for claims that *clearly* do not seek to tie up any judicial exception
  – Such claims may recite an exception, but their eligibility will be self-evident, so no detailed analysis is needed
  – If the examiner has a doubt as to whether the claim seeks coverage for a judicial exception itself, the examiner is to perform a full analysis
Changes From Prior Guidance

• Integrated approach for eligibility
• Inquiry turns on whether the claim is “directed to” a judicially recognized exception
• The analysis as to whether the claim as a whole amounts to significantly more than the judicial exception (Step 2B) no longer weighs multiple factors
• For “product of nature” exception,
  – Determination of whether a claim is directed to a “product of nature” is separated from the analysis of whether the claim includes significantly more than the exception
  – The markedly different analysis focuses on characteristics that can include structure, function, and/or other properties
Examiner Training

• Corps-wide training has been completed for the general guidance

• Training on examining inventions involving nature-based products has been delivered to examiners in those fields of art

• Training on examining inventions involving abstract ideas has been delivered to examiners in those fields of art

• All training given to examiners is posted on the website
July 2015 Update

Issued on July 30, 2015, the Update:

• Provides clarifications to the 2014 IEG

• Provides additional abstract idea examples based on cases and hypotheticals (Appendix 1).

• Provides an index of examples by abstract idea and “significantly more” treatment (Appendix 2).

• Includes an updated case law chart cross-referencing cases to discussions of cases in the IEG, examples, and Update (Appendix 3).
July 2015 Update

Responds to six major themes from public comments:

1. Additional Examples

2. Further Explanation of the Markedly Different Characteristics Analysis

3. Identifying Abstract Ideas

4. Making a *Prima Facie* Case and the Role of Evidence

5. Application of the 2014 Interim Guidance in the Examining Corps

6. The Role of Preemption and Streamlined Analysis
1. Additional examples from public submissions, case law, and issued patents:

<table>
<thead>
<tr>
<th>Claimed Technology</th>
<th>Example Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business method</td>
<td>Transmission of Stock Quote Data</td>
</tr>
<tr>
<td>GUI</td>
<td>Graphical User Interface for Meal Planning</td>
</tr>
<tr>
<td>GUI</td>
<td>Graphical User Interface for Relocating Obscured Textual Information</td>
</tr>
<tr>
<td>Software</td>
<td>Method for Updating Alarm Limits</td>
</tr>
<tr>
<td>Software</td>
<td>Rubber Manufacturing</td>
</tr>
<tr>
<td>Mechanical</td>
<td>Internal Combustion Engine</td>
</tr>
<tr>
<td>Software</td>
<td>System Software - BIOS</td>
</tr>
</tbody>
</table>

Areas of Clarification:

- Additional art areas,
- Identifying abstract ideas
- Evaluation of “significantly more”
  - All elements together may provide significantly more even where individually conventional
2. Markedly Different Characteristics (MDC)

Benefits of determining MDC in Step 2A:

- Additional eligibility pathway via Step 2B
- Quick eligibility finding
- Consistency

- MDC is used to determine if the claim is directed to a “product of nature”
- Mirrors Supreme Court analyses
### 3. Identifying Abstract Ideas

Courts’ identification of abstract ideas reveals clusters of similar types:

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</tbody>
</table>
Prior abstract ideas can be described by one or more of the following descriptors:

- Concepts relating to the economy and commerce, such as agreements between people in the form of contracts, legal obligations, and business relations.
- Concepts relating to interpersonal and intrapersonal activities, such as managing relationships or transactions between people, social activities, and human behavior, satisfying or avoiding a legal obligation; advertising, marketing, and sales activities or behaviors, and managing human mental activity.
- Mathematical concepts such as mathematical algorithms, mathematical relationships, mathematical formulas, and calculations.
- An idea standing alone such as an uninstantiated concept, plan or scheme; as well as a mental process (thinking) that “can be performed in the human mind, or by a human using a pen and paper”.

But, concepts outside these descriptors have not been identified as abstract ideas.
4. Requirements of a *Prima Facie* case

| Clearly articulate why the claimed invention is ineligible |

An examiner should:
- Identify the exception and explain why it is an exception
- Identify all additional limitations and explain why they do not amount to significantly more

*A prima facie* case of ineligibility shifts the burden of proof to the applicant.
4. Requirements of a Prima Facie case

Ineligibility conclusion may be supported by:

- knowledge generally available to those in the art
- case law precedent
- applicant’s own disclosure, or
- evidence

- Courts have not identified a case where evidence would be required to support a finding of ineligibility.
- Courts have stated that newly discovered exceptions, such as a new mathematical formula, are still exceptions.
- In most cases, the courts reach a conclusion on eligibility without making any factual findings.
  - For example, no Supreme Court case has cited evidence supporting their conclusion that an element was “well-known” or “conventional.”
4. Requirements of a Prima Facie case

For Step 2B, examiners may rely on prior court findings or recognition in the art that certain elements are well-understood, routine, and conventional.

Courts have recognized the following non-exclusive list of computer functions to be well-understood, routine, and conventional functions when considered individually and claimed in a merely generic manner:

- performing repetitive calculations,
- receiving, processing, and storing data,
- electronically scanning or extracting data from a physical document,
- electronic recordkeeping,
- automating mental tasks, and
- receiving or transmitting data over a network, e.g., using the Internet to gather data.

Examiners rely on their expertise in the art in making the 2B determination.
5. Consistent application of the IEG

Comprehensive and ongoing approach to enhancing examiners’ understanding of § 101:

Guidance Materials:
- Further Examples
- Index of Examples
- Listing of Eligibility cases

Training:
- Corps-wide lectures
- Group discussions
- Workshops
- Video lectures, slides, worksheets on website
6. Role of Preemption and Streamlined Analysis

**Alice/Mayo test** incorporates preemption concerns

- No separate preemption test
- Streamlined analysis is not an alternative test

Preemption concerns in IEG:
- Step 2A
  - “directed to” requirement
- Step 2B
  - unconventional steps that confine claim to particular useful application

Streamlined analysis:
- Coextensive with full Alice/Mayo test
- No difference in results
- Applies only where unambiguously eligible
Next Steps: Feedback and Training

The Interim Eligibility Guidance represents a stage in an iterative process towards improved clarity in §101.

The USPTO continues to seek improvement by
- reviewing comments to the Guidance and
- closely watching Federal Circuit decisions for further developments.

The USPTO maintains a web site for its examination training materials: