Patent Eligibility of Software Inventions After *Alice* and Its Impact on Patent Valuation
Speaker Biography

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What is Your Patent Worth?

• Strategic Value (operating companies)

• Licensing Value - Patent valuation methods:
  – Quantitative – cost, income, and market approaches
  – Qualitative –
    • Legal Value - Patent Quality (some indicators of patent’s Alice quality?)
    • Technical Value – Usefulness of Invention, Ease of Design Around
    • Market Value - Demand for Invention, Ability to Commercialize

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Some Takeaways

- Software is not necessarily patent ineligible – even software that does not interact with the tangible world (*Enfish*)
- Software that does not improve the performance of the computer itself is not necessarily patent ineligible – are you improving another technology? (*McRO*)
- Claims do not need to be long and narrow to address Alice - recite a specific solution to a problem (*Visual Memory*)
- Risk from 12(b)(6) motions – patent eligibility is a question of law (changing?)

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Some More Takeaways

- Divided infringement hurdle - specific arrangement of elements for a technical improvement over prior art
- Risk from AIA post-grant review (PGR) challenges – monitoring competitor grants?
- Note the USPTO art unit granting the patent?

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Which USPTO art unit is granting the patent?

- Licensing value? Strategic value?

Source: http://www.law360.com/articles/578925
Alice - Precedential Trilogy

Gottschalk v. Benson

- **Holding:** Claims held 101 ineligible.

- **Subject matter at issue:** converting binary coded decimals (BCD) into pure binary numbers.

- “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.
Parker v. Flook

• **Holding:** Claims held 101 ineligible.

• **Subject matter at issue:** Method of updating alarm limits for monitoring of petrochemical reactions.

• Point-of-novelty test – “[Flook’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.” The only difference between the claimed method and conventional methods was inclusion of a mathematical formula.
Diamond v. Diehr

• **Holding:** Claims held 101 eligible.

• **Subject matter at issue:** Process for precision curing of rubber.

• Rejects 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.”
**Diamond v. Diehr – “as a whole” requirement**

- “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.”

- “[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.” (boldface added)
Alice – Modern SCOTUS Timeline

Alice v. CLS Bank

- **Holding**: Unanimous decision that all asserted claims are patent ineligible under 35 USC 101.
- **Subject matter at issue**: mitigating settlement risk by forming and trading risk management contracts.
- **Two-part Mayo-Alice test**
“First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. If so, we ask, ‘[w]hat else is there in the claims before us?’ To answer that question, we consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application. We have described step two of this analysis as a search for ‘an inventive concept’ – i.e., 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 [ineligible concept] itself.’”

_Alice at 2355_ (citing Mayo Collaborative Servs. v. Prometheus Labs., _Inc._, 132 S. Ct. 1289 (2012)) (citations omitted).
Two-part *Mayo-Alice* Test

- **Step 1** – of little concern here

- **Step 2A**
  - Is the claim “directed to” an abstract idea?

- **Step 2B**
  - Does the claim recite “significantly more” than an abstract idea?

STEP 2A

- Judicially recognized exception: **Abstract Idea**

- Generally includes:
  
  (i) fundamental economic practices,
  
  (ii) certain methods of organizing human activities,
  
  (iii) an idea ‘of itself,’ and
  
  (iv) mathematical relationships/formulas
STEP 2B

• What is “significantly more?”
  • Improvements to another technology or technical field
  • Improvements to *functioning of 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
  • Adding unconventional steps that confine the claim to a particular useful application
  • Adding more than a merely insignificant extra-solution activity
  • Other meaningful limitations beyond generally linking the use of the judicial exception to a particular technical environment
Post-Alice abstract idea – CAFC Timeline
Post-Alice abstract idea – Some Citations

- ...
- TLI Communications LLC v. AV Automotive LLC, 823 F.3d 607, 118 U.S.P.Q.2d 1744 (Fed. Cir. May 17, 2016)
- Bascom Global Internet v. AT&T Mobility LLC, 827 F.3d 1341, 119 U.S.P.Q.2d 1236 (Fed. Cir. June 27, 2016)
- Affinity Labs of Texas, LLC v. DirectTV, LLC, No. 2015-1845 (Fed. Cir. Sept. 23, 2016)
- Affinity Labs of Texas, LLC v. Amazon.com, No. 2015-2080 (Fed. Cir. Sept. 23, 2016)
- Apple v. Ameranth, No. 2015-1703 (Fed. Cir. Nov. 29, 2016)
- ...
- ...
**DDR Holdings v. Hotels.com**

- **Holding:** Claims held 101 eligible
- **Subject matter at issue:** generating a composite web page

- *(Alice step 1 - passed)* claims here are not directed to abstract idea
  - No mathematical algorithm, a fundamental economic, or longstanding commercial practice.

- Claimed invention is “necessarily rooted in computer technology in order to overcome a problem [(i.e., retaining website visitors)] specifically arising in the realm of computer networks.” It does not merely recite some business practice known from the pre-Internet world along with the requirement to perform it on the Internet.
Enfish, LLC v. Microsoft Corp.

• **Holding:** Claims held 101 eligible

• **Subject matter at issue:** software technology involving a “self-referential” database achieving improved performance on a general-purpose computer.

• (Alice step 1 - **passed**) claims are not directed to an abstract idea.
  - Applying a stage-one filter to the claims, in light of the patent specification, based on whether the claim’s character as a whole is directed to excluded subject matter.

• All Software isn’t necessarily abstract under the first step of the Alice test
Bascom v. AT&T Mobility

- **Holding**: reversed lower court’s grant of 12(b)(6) motion of patent ineligibility
- **Subject matter at issue**: Filtering Internet content

- *(Alice step 1 - failed)* claim directed to abstract idea of filtering content on the Internet.

- *(Alice step 2 - passed)* The “claims carve out a specific location for the filtering system (a remote ISP server) and require the filtering system to give users the ability to customize filtering for their individual network accounts.”
  - No preemption
  - Not generic computer components performing conventional activities

- Particular arrangement of elements is a technical improvement over prior art.
McRO Inc. v. Bandai Namco

- **Holding**: reversed lower court’s grant of 12(c) motion of patent ineligibility
- **Subject matter at issue**: Automatically animating lip synchronization and facial expression of animated characters

- (Alice step 1 - passed) ordered combination of claimed steps, using unconventional rules are not directed to an abstract idea.
  - No preemption - “there are many other possible approaches to automating lip synchronization using rules”
  - “claim uses the limited rules in a process specifically designed to achieve an improved technological result in conventional industry practice.”

- **USPTO Memo - Nov. 2016**
Amdocs (Israel) Limited v. Opnet Telecom, Inc.

- **Holding:** Claims (4 patents) held 101 eligible
- **Subject matter at issue:** Distributed network-based filtering and aggregating platform; reporting on collection of usage information in distributed network

- *(Alice step 1 – failed?)* claim directed to abstract idea.
- *(Alice step 2 - passed)* the claims, as a whole, represented an unconventional technical solution narrowly tailored to address a tech problem specific to computer networks. “Enhance” limitation tied to recited distributed architecture.
  - No preemption
  - Not generic computer components performing conventional activities – i.e., distributed enhancement of invention was critical advancement over prior art.

- No “single, succinct, usable definition or test” – compare to prior decisions
Trading Technologies Int’l, Inc. v. CQG, Inc.

- **Holding**: Claims held 101 eligible
- **Subject matter at issue**: GUI that includes a dynamic display of bids and asks and a static display of corresponding prices to reduce the time it takes to place an electronic trade

  - (Alice step 1 – passed) claims solve problems of prior GUI devices in context of computerized trading relating to speed, accuracy, and usability.
    - GUIs are not a long-known idea
    - Claims require a specific, structured GUI paired with a prescribed functionality directly related to the GUI’s structure that addresses a specifically identified problem in the prior art

  - (Alice step 2 – passed) static price index is an inventive concept that allows traders to place trades accurately and efficiently.
    - GUIs structure and prescribed functionality were “something more”
**Thales Visionix Inc. v. Elbit Systems of America, LLC**

- **Holding:** reversed lower court’s judgment on pleadings holding patent ineligibility
- **Subject matter at issue:** an inertial tracking system for tracking the motion of an object relative to a moving reference frame

- *(Alice step 1 – passed)* claims specify a configuration of inertial sensors and a method of using raw data from the sensors to accurately calculate a position and orientation of an object on a moving platform.
  - The claims are not merely directed to the abstract idea of using a mathematical equation to determine the relative position of an object
  - The claims are directed to using inertial sensors in a non-conventional manner to reduce errors in measuring the relative position
  - “That a mathematical equation is required to complete the claimed method and system does not doom the claims to abstraction”
**Visual Memory LLC v. NVIDIA**

- **Holding:** patent eligible claims, reversing lower court’s judgment on pleadings
- **Subject matter at issue:** computer memory architecture adaptable to cache for different types of processors.

- **(Alice step 1 – passed)** Not abstract because claims directed to improvement in computer technology – faster cache memory system for use with different types of processors.

- **Surprisingly broad claim:**

  Claim 1. A computer memory system connectable to a processor and having one or more programmable operational characteristics, said characteristics being defined through configuration by said computer based on the type of said processor, wherein said system is connectable to said processor by a bus, said system comprising:
  - a main memory connected to said bus; and
  - a cache connected to said bus;
  wherein a programmable operational characteristic of said system determines a type of data stored by said cache.
Finjan v. Blue Coat Systems

- **Holding**: affirmed district court’s holding of patent eligibility
- **Subject matter at issue**: behavior-based virus scan improved over code-matching virus scan

- *(Alice step 1 - passed)* claim directed to improvement in computer functionality.
  - Favorable claim construction of “Downloadable”
  - “a new kind of file that enables a computer security system to do things that it could not do before” – e.g., behavior-based virus scan

- Surprisingly broad method claim with just three steps
  - Claims recite more than mere result – they recite specific steps that accomplish desired result
  - Specification showcased problem-solution approach and inadequacies of prior art solutions
Subject Matter Eligibility Spectrum

- *Enfish*: database structure
- *Visual Memory*: memory architecture
- *DDR Holdings*: webpage design
- *BASCOM*: content filtering
- *McRo*: computer animation
- *Finjan*: virus scan
- *Thales*: motion tracking
- *Amdocs*: network management

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USPTO Resources

Practical Pointers – Drafting New Applications

• Frame your invention as a problem-solution
• Mimic and include known examples – duty of disclosure
• Involve inventors in the Alice-shielding
• Set budget expectations with clients

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Questions?

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