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Patenting software in the new normal after *Bilski*, *Mayo* and *Alice*

By James Yang

Between 2010 and 2014, the U.S. Supreme Court decided *Bilski v. Kappos*, 561 U.S. 593 (2010), *Mayo Collaborative Services v. Prometheus Labs.*, 132 S. Ct. 1289 (2012), and *Alice v. CLS Bank*, 134 S. Ct. 2347 (2014), addressing the big question of what types of inventions are eligible for patent protection.

These have been the most consequential decisions of the decade for software inventions. The rate at which software inventions were being allowed at the U.S. Patent and Trademark Office dropped from the norm of 60 percent to less than 10 percent. Also, in litigation, software patents were being invalidated.

The decisions raised the bar for what types of inventions are eligible for patent protection. The dramatic drop in allowance and increased patent invalidation rates should be discussed with inventors and businesses when the issue arises so that they can make an informed decision on whether to spend the time and money seeking a patent.



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In his April 18 testimony before the Senate Judiciary Committee, Iancu stated that 'he is ready to work with Congress on legislative solutions to the 'uncertainty' created by Supreme Court 101 jurisprudence.'

— Andrei Iancu, Director of USPTO

Historical Review

The *Bilski*, *Mayo* and *Alice* trilogy dealt with the threshold question of whether an invention was the type of invention that should be eligible for patent protection. The Supreme Court expanded the definition of those types of inventions that are ineligible for patent protection. Based on that new definition, software inventions are now being rejected at the Patent Office and invalidated during litigation at a high rate.

Bilski, *Mayo* and *Alice* did not hold that software inventions per se ineligible for patent protection. But, on a de facto basis, software inventions are disfavored by the Patent Office and the courts.

For patent eligibility purposes, the general rule is that "anything made under the sun that is made by man" is eligible for patent protection. *See Diamond v. Chakrabarty*, 447 U.S. 303 (1980). Laws of nature, natural phenomenon and abstract ideas are not eligible for patent protection. Of course, E=mc2 and gravity should not be eligible for patent protection.

Everyone can agree in *principal* that abstract ideas should not be patented because they do not advance technology. For example, patenting the *general* concept of interstellar human travel would not promote the progress of science. It is a great idea but offers no practical benefit to society because the result alone does not teach how to achieve interstellar human travel. The stakeholders of the patent system cannot agree as to the *definition* of what should be considered an abstract idea, and thus ineligible for patent protection.

The Supreme Court laid out a two-step analysis referred to as the *Alice/Mayo* framework for determining when a claimed invention is an abstract idea:

First, we "determine whether the claims at issue are directed to a patent ineligible concept." [Second, if] so, we "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." If the claims are directed to a patent-eligible concept, the claims satisfy Section 101 and we need not proceed to the second step. *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc. et al.*, 2016-2684 (Fed. Cir. 2018).

The *Alice/Mayo* framework provided leeway for the lower courts and the U.S. Court of Appeals for the Federal Circuit to develop the case law around these two steps. Unfortunately, what has happened is that entire categories of inventions are being deemed an abstract idea. Section 2106.04(a) of the Manual of Patent Examining Procedure states that "the courts have declined to define abstract ideas. Instead, they have often identified abstract ideas by referring to earlier precedent, e.g., by comparing a claimed concept to the concepts previously identified as abstract ideas by the courts."

With each new decision by the Federal Circuit rendering an invention an abstract idea and thus ineligible for patent protection, other inventions in the same category are now also considered to be directed to an abstract idea. To become patented, the claimed invention now needs to pass step two which has proven difficult to do.

Last year, the Patent Office published a report, Patent Eligible Subject Matter: Report on Views and Recommendations from the Public. In that report, complaints were voiced that decisions were legally flawed, that judicial exceptions were overly broad, that the two-step test was unclear and causes unpredictability, that preemption conflates Section 101 with other patentability provisions, and that jurisprudence stifles innovation and hurts businesses.

Basic Strategy

With this background, how do in-house counsel and patent attorneys advise their clients when they have a software invention? Should they recommend forgoing the patent process for software inventions?

This appears to be unacceptable, especially for software inventions that are easy to reverse engineer. If the software is successful after launch, how will the business stop others from introducing their own version of the software without patent protection?

Alternatively, if businesses and inventors seek *patent protection* for the software, is the time and money for securing patent protection justified? Why would a business spend money on a low probability event? Based on my discussions with inventors, one possible justification may be to preserve the *option* of securing a patent in the future to plan for the possibility that the software will be extremely successful and the possibility that the patent allowance rates might change.

"Patent protection" loosely refers to both patent pendency and a granted enforceable patent. For software, I generally advocate for the former type of patent protection — patent pendency. Patent pendency establishes a priority date for the invention so that others cannot file their own patent application on the same invention. The business would still have to initially spend the money to secure patent pendency up front, but not the examination costs. Examination costs occur much later after establishing patent pendency (i.e.,

filing a patent application). Costs for securing patent pendency can range between $10,000 to $15,000. Examination costs can range between a few thousand dollars to $10,000 or more.

Potential for Future Changes in the Law Could Justify Expense

The basic strategy for protecting software inventions is to minimize patent legal costs while preserving the option to fight for the patent later *if and when the law changes and if the software is doing well in the marketplace*. The law continually changes.

Since *Alice*, a few opinions by the Federal Circuit have held software inventions eligible for patent protection. Below are a few cases that have deemed software inventions eligible for patent protection. Hence, software inventions are being patented, just not at the same rate as other areas of technology. The holdings of these cases should be reviewed to help the patent drafter craft patent applications that fall in line with prior precedent: *Core Wireless Licensing v. LG Electronics* for graphical user interface; *McRO, Inc. v. Bandai Namco Games America Inc.* for the process of automating animation of a character; and Enfish, *LLC v. Microsoft Corporation* for computer databases.

Moreover, over the course of 14 years in practice, I've helped many inventors secure patents under four different directors at the Patent Office. With each new director, the allowance rate has varied. If the allowance rate was low under one director, the advice to protect an invention does not change because the basic reason for securing patent protection remains constant. Those patent applications filed under the leadership of that director might be examined under the leadership of a director where the allowance rate would be higher. Likewise, even though the patent allowance rate for software inventions is low now, the recommendation should still be to seek patent protection so that the business can take advantage of any change in the law or rules if and when they do change. Be forewarned that there is *no guarantee* that the laws will change. We may truly be in a new norm of low allowance rates for software inventions.

Minimize Legal Costs

A way to minimize patent legal costs to secure patent pendency is to file a provisional patent application instead of a nonprovisional patent application. The provisional patent application will be less expensive compared to a nonprovisional patent application by a couple thousands of dollars. For provisional patent applications, the claims do not need to be prepared and the filing fee is lower by about $500 for a small entity. Provisional patent applications when prepared properly are still not cheap because the patent attorney needs to spend the time to expand on the detailed description section of the patent application. The Patent Office describes provisional patent application as a lower cost option which, in my opinion, is an accurate description unlike various internet sites that describe provisional patent applications as cheap. Nevertheless, establishing patent pendency with a provisional patent application will be less expensive.

Delay Examination Costs

Another reason that the provisional patent application should be part of the basic strategy is because it delays the examination costs. The examination costs can be delayed for up to one year. Provisional patent applications are never substantively examined. Only nonprovisional patent applications enter the queue for examination and that can be filed up to one year after the filing of the provisional patent application. Once the nonprovisional patent application is filed, then the patent application will not be examined for about another 14 to 24 months. From the filing date of the provisional patent application to the date of the initial office action, the time could be up to 26 to 36 months by first establishing patent pendency with a provisional patent application. During that period, the business will not be incurring examination expenses.

Market Should Justify Further Patent Legal Costs

The benefit of the long delay in examination is that it provides the business time to market test the invention. If the invention does well during that period, the hope is that the profits from the sales of the software can now justify the further expenses associated with examining the patent application. Moreover, the goal of delaying the examination is to allow the courts to develop the case law on patent eligibility.

If the software is doing very well and competitors are starting to enter the market, the nonprovisional patent application can be filed at any time with an expedite request which will expedite examination of the patent application and hopefully secure the patent. If the software is not being well received, then the patent application can be abandoned at any time; the patent process and its associated costs can be stopped.

Potential Changes that Might Improve Chances for Securing Patent Protection

President Donald Trump nominated Andrei Iancu to be director of the Patent Office, and he was recently confirmed by the Senate. In his April 18 testimony before the Senate Judiciary Committee, Iancu stated that "he is ready to work with Congress on legislative solutions to the 'uncertainty' created by Supreme Court 101 jurisprudence." He also stated that the Patent Office "will explore and develop avenues which will increase certainty and predictability of eligibility analyses, and we will work to provide more concrete tests that guide examiners and the public toward finding the appropriate lines to draw with respect to eligible subject matter." I am hopeful that Congress working with the new director will find ways to fix the problems created by the Supreme Court's 101 jurisprudence.

In the meantime, inventors should be apprised of the downside of protecting software inventions due to concerns regarding eligibility for patent protection. They should also be presented with the basic strategy and allowed to make an informed decision on next steps. Give your recommendation but let them choose whether it is worth the time and money to secure patent protection on their software.

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