

Improvements to technology used in your business are eligible for patenting—it's not your business.

by Bridget Hayden

If you have talked about patenting inventions lately, you might have been told that software per se is not eligible for patenting and that you should protect your business's intellectual property (IP) using copyrights, trade secrets and trademarks – all forms of “soft” IP. While software's source code itself (software per se) cannot be directly patented, it can be protected in a patent claim by expressing the software as a process describing how the software works. This approach is not without its challenges. It can be difficult to capture the software at a level of detail that is both patentable over the prior art and difficult to design around. Since the Supreme Court's recent *Alice*ⁱ decision, a new challenge has appeared: expressing software in a patent eligible way. Despite the challenges of patenting software and the availability of soft IP approaches, patenting technology improvements provides unique advantages over other kinds of IP protection and recent court decisions have provided meaningful pathways to address challenges to patent eligibility.

Patents give the patent owner the right to exclude others from making, using, selling, offering for sale or licensing their patented invention. Software-related patents provide protection beyond that afforded by other forms of IP, such as copyright protection. Copyright protection attaches at the time of creation of software code, but covers the code itself and not necessarily the code's function. Further, copyright protection best protects the software from direct copying (e.g., software piracy), but does not protect software from a competitor independently designing a competing product having the same functionality. By contrast, software patents can be used to protect the *functionality* of the technology—the software code, network or computer architecture, and their interplay. In this manner, a patent covering the functionality of code can protect a patentee from independently-designed competing products that have the patented functionality. As coders are aware, functionality of a competitor's product can often be mimicked without pirating source code, but when the functionality of the software is patent-protected, design around options become more difficult. This results in patents providing a broader scope of IP protection, and when combined with other forms of IP protection, can add robustness to your IP portfolio. Consequently, companies that use

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unique business processes implemented in software commonly seek to protect their technologies using a combination of IP protection that includes patents.

The patentability of software is often discussed along with the patentability of so-called “business method patents.” For many years, methods of doing business were considered to be unpatentable subject matter, but ultimately, the acceptability of business method patents was affirmed in 1998 when the Federal Circuit decided *State Street Bank*ⁱⁱ.

For years, both business method and software patents continued to flourish until July 2014 when the Supreme Court decided *Alice Corp. v. CLS Bank*.ⁱⁱⁱ There, the Supreme Court established a two-step framework for distinguishing patent ineligible abstract ideas from applications of those concepts that are patent eligible. In step one, the framework asks whether a claim is directed to a judicial exception amounting to an abstract idea. If so, the claim is patent ineligible unless it passes step two in the framework by further reciting an “inventive concept” amounting to something significantly more than the judicial exception. While not outright banning software or business method patents, the effect of this decision is that the ability to protect software has become increasingly difficult, and exact boundaries of patentable subject matter in view of *Alice* remained undefined. Indeed, immediately after the Supreme Court decided *Alice*, the U.S. Patent and Trademark Office (USPTO) began rejecting patent applications related to business solutions implemented in software, alleging the inventions are not subject matter eligible. Several hundred software-related patent applications set to issue into a patent were even withdrawn from issuance by the USPTO. The rejection rate for lack of subject matter eligibility in some segments of the USPTO reached 90 percent.

Patent attorneys are now faced with a new landscape for patenting software-related innovations. Over the two years since *Alice*, the Federal Circuit has issued five primary decisions in favor of subject matter eligibility for software technologies that have provided meaningful guidance for practitioners: *Amdocs*, *McRO*, *Bascom*, *Enfish*, and *DDR*.

Amdocs v. Openet Telecom^{iv}

The most recent Federal Circuit decision, *Amdocs*, was decided on November 1, 2016. There the court found patent eligible an invention directed to software for processing network accounting information. Uniquely, the court had the benefit of prior claim term construction from a related proceeding to inform its understanding of certain functional claim terms, which is in contrast to the vast majority of decisions where subject matter eligibility has been decided as a threshold issue, thus removing the opportunity to define claim terms during the subsequent claim construction phase. In *Amdocs*, because the functional claim term “enhance” had been interpreted as being dependent on distributed computer architecture, it was defined as “to apply a number of field enhancements in a distributed fashion,” a critical improvement over the prior art. Other claim interpretations helped illustrate the network accounting information is processed by software in one

location and then transmitted over a network to a centralized manager, adding structure to the otherwise functional claim language. The court's understanding of the claimed invention was further bolstered by the specification, which the court characterized as disclosing "a critical advancement over the prior art" that resulted in an unconventional technological solution to a technical problem. Illustrating improvements to the prior art and interpreting the claims as including structural components for implementing software helped the court find the claims were patent eligible. Including these features in software-related patent applications should be useful in avoiding or overcoming abstractness rejections under the *Alice* framework.

In making its decision, the court relied, in part, on *DDR*^v, which is the first Federal Circuit decision to find claims subject matter eligible after *Alice*.

DDR Holdings v. Hotels.com^{vi}

Decided in December 2014, in *DDR*, the court found claims to be patent eligible that were "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." The claims addressed the "business challenge" of "retaining website visitors" that would have otherwise been transported away to a different website after clicking a link. While claims addressing business challenges have typically received significant scrutiny before the USPTO and Federal Circuit, the court found that the invention included a patentable hook—the claims addressed a business challenge particular to the Internet. Based on this rationale, the court found the claims patent eligible. In doing so, the court ultimately held that inventions necessarily rooted in computer technology, such as Internet-centric inventions, that provide a result which "overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink" can be patent eligible under step two of the *Alice* framework as being significantly more than an abstract idea.

While many claims still struggled under *Alice* even in view of *DDR*, the decision cleared a path to subject matter eligibility for claims amounting to significantly more than an abstract idea by being rooted in computer technology. *DDR* remained a go-to citation for practitioners for nearly a year-and-a-half until the Federal Circuit released its *Enfish* decision which further expanded the path cleared by *DDR*.

Enfish v. Microsoft^{vii}

Decided in May 2016, in *Enfish*, the court noted that *Alice* should not be read so broadly as to find software-related inventions inherently abstract, thus failing step one of the *Alice* analysis and requiring analysis under step two of the framework. Rather, the court found that it is "relevant to ask whether the claims are directed to finding an improvement to a computer functionality versus being directed to an abstract idea, even at the first step of the *Alice* test." Following this view, the court found that the claims were directed

to a “specific asserted improvement in computer capabilities” under step one, rather than an abstract idea for which a computer was merely invoked as a tool. Stated another way, the court explained that “when the plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity,” the claims are not directed to an abstract idea and are patent eligible.

Enfish provided strong arguments for inventions that improved the functioning of a computer and provided two avenues for such inventions to be patentable: under step one as being directed to an improvement (as in *Enfish*) or under step two as being necessarily rooted in computer technology (as in *DDR*). However, the lines between these two avenues remained blurry and many patentees still faced patent ineligibility concerns for inventions that presented a close call. Practitioners did not have to wait long for clarity as the very next month the court decided *Bascom*.

Bascom v. AT&T^{viii}

Decided in June 2016, *Bascom* examined the subject matter eligibility of an invention related to filtering of internet content. While improvements to internet filtering technology could be characterized as an improvement to computer technology, the court did not find the claims patent eligible under step one like in *Enfish*. Rather, the court found the claims directed to filtering content generally, which the court characterized as a patent ineligible abstract idea. With the claims found to be directed to an abstract idea, the court moved on to step two of the analysis. In doing so, the court noted that “some inventions’ basic thrust might more easily be understood as directed to an abstract idea, but under step two of the *Alice* analysis, it might become clear that the specific improvements in the recited computer technology go beyond well-understood, routine, conventional activities and render the invention patent-eligible.” Moving on to step two, the court indicated that the invention described how its particular overall arrangement of elements is a technical improvement over prior art ways of filtering such content. The prior techniques were “susceptible to hacking and dependent on local hardware and software, or confined to an inflexible one-size-fits-all scheme.” Further, in this analysis, the court found that this inventive concept in the claim as a whole, rather than in the form of an individual recitation. In this manner, the court held that step two of the analysis need not rest on individual elements, but can instead lie on the combination of elements, even where those elements are generic computer elements that cannot alone contribute to subject matter eligibility.

McRO v. Bandai Namco^{ix}

Decided in September 2016, *McRO* continues the line of cases finding patent eligibility in an improvement to a computer. However, *McRO* is noteworthy for finding the improvement not merely in improvements to the operation of a computer. Rather, the invention in *McRO* related to a set of mathematical relationships that allowed a computer

to perform a function not previously performable by a computer—namely the ability of a computer to perform 3D animation techniques that previously required a human animator. *McRO* further makes it clear that an invention cannot be oversimplified by the USPTO or the courts. The invention set forth in the claims must be viewed as a whole and individual requirements cannot be ignored. In this manner, even though the improvement involved a set of mathematical relationships that would have been unpatentable if taken individually, the overall effect of the invention was to allow computers to perform new tasks, which provided patentability.

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With the trend starting in *DDR* and continuing through *Amdocs*, it appears that courts are loosening their belt on subject matter eligibility by emphasizing the patentability of improvements to computers under both step one and step two of the *Alice* test. The trend appears to be trickling-down to the USPTO by its recent issuance of new examination guidelines on subject matter eligibility.^x

Businesses seeking to protect their software-related inventions with patents, should keep these cases in mind when developing invention disclosures and preparing patent applications. The lessons learned from these cases can help reframe inventions as improvements to the functioning of a computer or can add structure to otherwise functionally-described software, which—while not guaranteeing patentability—appear to provide substantial steps down the path to patentability.

ⁱ *Alice Corp. v. CLS Bank Int'l*, 134 S.Ct. 2347 (2014).

ⁱⁱ *State Street Bank and Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998).

ⁱⁱⁱ *Alice Corp. v. CLS Bank Int'l*, 134 S.Ct. 2347 (2014).

^{iv} *Amdocs v. Openet Telecom*, No. 2015-1180 (Fed. Cir. Nov. 1, 2016).

^v *DDR Holdings v. Hotels.com*, 773 F.3d 1245 (Fed. Cir. 2014).

^{vi} *Id.*

^{vii} *Enfish, LLC v. Microsoft Corp.*, No. 2015-1244 (Fed. Cir. May 12, 2016).

^{viii} *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, No. 2015-1763 (Fed. Cir. June 27, 2016).

^{ix} *McRO v. Bandai Namco*, No. 2015-1080–1101 (Fed. Cir. Sept. 13, 2016).

^x USPTO, RECENT SUBJECT MATTER ELIGIBILITY DECISIONS, Nov. 2, 2016.

