A SILVER LINING FOR SOFTWARE PATENTS

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Software patents play an important role in commercializing innovation in our increasingly digital world. The software inventions that scientists, developers, and engineers create are valuable and deserve protection. But since the decision by the Supreme Court in *Alice Corp. v. CLS Bank*, many software patents have been held ineligible as being directed to abstract ideas.

So what exactly constitutes an abstract idea? The Federal Circuit, the patent appeals court one step below the Supreme Court, sidestepped the question—"In any event, we **need not labor to delimit the precise contours of the 'abstract ideas'** category in *[Alice]*." To use a sports analogy, instead of defining a strike zone, *Alice* asks the United States Patent and Trademark Office (USPTO) and the judiciary to call strikes and balls based on the disposition of previous pitches. The results, unsurprisingly, have been inconsistent.

Fortunately, for software patents, the strike zone just became better-defined with the Federal Circuit's recent decision in *McRo v. Bandai Namco*.

The *Alice* Test

Software patent proponents and naysayers agree that a patent should not monopolize an abstract idea. A broad patent might hinder technological innovation through preemption of an entire field of research. But where do we draw the line? In *Alice*, the Supreme Court affirmed a two part-test first introduced in *Mayo v. Prometheus* to determine subject matter eligibility.

First, the fact-finder (*i.e.*, the court or the USPTO) must determine whether the claims of a patent are directed to an abstract idea.

Second, if the claims are directed to an abstract idea, the fact-finder must determine whether the claim's elements, considered both individually and in combination, transform the nature of the claims into a patent-eligible application of the abstract idea.

Earlier in 2016, the Federal Circuit determined in *Enfish v. Microsoft* that not all software patents are directed to an abstract idea. The Federal Circuit stated, **"[s]oftware can make non-abstract improvements to computer technology, just as hardware improvements can, and sometimes the improvements can be accomplished through either route."** As such, the particular patent at issue in *Enfish* passed the first prong of the *Alice* test.

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McRo, like *Enfish*, holds that software claims are not automatically directed to an abstract idea. *McRo* emphasizes that a proper analysis under *Alice* requires a reasonable and measured interpretation of the patent's software claims.

Claim Interpretation

Software claims are often rejected by the USPTO because of improperly overbroad interpretations of the "abstract idea" found in the claims. The Supreme Court is aware of this issue, stating in *Mayo* that "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." Further, the Federal Circuit stated in *TLI Communications v. AV Automotive* that courts "must be careful to avoid oversimplifying claims" when determining if a claim is directed to an abstract idea.

McRo involved software claims for automatically animating lip synchronization and facial expression for animated characters. The patent-at-issue claimed a method of keying an audio signal to a set of phenome sequences, and then creating a set of "morph-weight set streams" to use as input sequences for the animated characters. A phoneme is a unit of sound used to distinguish one word from another in a particular language.

In *McRo*, the Federal Circuit reviewed the required features of the claims, noting that "the claims are limited to rules that evaluate subsequences consisting of multiple sequential phonemes," as "[t]his limitation is apparent on the face of the claims." In its analysis, the Federal Circuit reiterates that *"claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter"* under the first prong of the *Alice* test, and "we look to both the claim as a whole and the individual claim elements" under the *Alice* test's second prong.

"[We] 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." – McRo at 23.

The Federal Circuit criticized the lower court for oversimplifying the claims and "failing to account for the specific requirements of the claims." Furthermore, the Federal Circuit implied that the lower court improperly ignored features in the claims elements. To that point, the Federal Circuit noted that the claims "define a morph weight set stream as a function of phoneme sequence and times associated with said phoneme sequence" and "require applying said first set of rules to each sub-sequence . . . of timed phonemes."

In summary, *McRo* reminds fact-finders that claims must be considered in their entirety to ascertain whether the invention is directed to an abstract idea. Fact-finders should be careful not to oversimplify the claims to the point where substantive limitations are read out in favor of finding an abstract idea. Practitioners can be expected to use *McRo* when responding to improperly overbroad interpretations of the claims.

Preemption and Automation

McRo provides some insight on how preemption and automation play a factor when determining whether claims are directed to an abstract idea. The Federal Circuit found *McRo*'s claims valid because "the **ordered combination** of claimed steps, using **unconventional rules** that relate sub-sequences of phonemes, timings, and morph weight sets, is not directed to an abstract idea." The Federal Circuit supported this decision by reasoning that the claims contained (1) specific features that avoid preemption of a broad field of innovation and (2) more than mere automation of existing human activity.

The Federal Circuit rejected the notion that *McRo*'s patent claims "are abstract because they do not claim specific rules." Instead, a fact-finder should ***"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."*** Speaking about preemption, the Federal Circuit held that "[a] patent is not good for an effect, or the result of a certain process because such patents would prohibit all other persons from making the same thing by any means whatsoever." But ***"[a] patent may issue for the means or method of producing a certain result, or effect, and not for the result or effect produced."***

Therefore, a software patent should contain claims that focus on a specific method that improves existing technology—not a generic automation of a manual process performed by generic machinery.

The Federal Circuit also addressed "whether the claimed genus [*i.e.*, category] of rules preempts all techniques for automating 3-D animation that rely on rules." In *McRo*, the claims avoided broad preemption by requiring "a relationship between subsequences of phonemes, timing, and the weight to which each phoneme is expressed visually at a particular timing." To illustrate why the claims were not preemptive, the Court provided academic literature indicating other types of rules that could be developed to achieve the same result. Patent applicants and owners would be wise to do the same if faced with an abstract idea rejection.

The Federal Circuit found that the claimed invention in *McRo* tackled a previously unsolved problem. "The claimed improvement here is allowing computers to produce accurate and realistic lip synchronization and facial expressions in animated characters that previously could only be produced by human animators."

Unlike earlier software patent cases (such as *Flook*, *Bilski*, and *Alice*), the method of computer automation in *McRo* is different than prior human-performed animation methods. In particular, the "computer automation is realized by improving the prior art through the use of rules, rather than artists, to set the morph weights and transitions between phonemes." There was no evidence that the process previously used by animators is the same as the process required by the claims." Instead, the "animator's process was driven by subjective determinations rather than specific, limited mathematical rules." The Federal Circuit clarified further, stating ***"processes that automate tasks that humans are capable of performing are patent eligible if properly claimed."***

To summarize, patent claims should be directed to a method of producing a certain result instead of the result produced. Evidence showing that there are other ways to produce the same result may be effective in rebutting an abstract idea rejection. Automating a human-performed activity can be patent eligible if properly claimed. However, patent claims directed to automation need to include limitations that improve the prior art.

Practical Applications

1. Claims must be considered in their entirety. An abstract idea analysis must not be divorced from the specific language of the claims. *McRo* and *Enfish* add a dash of objectivity to the abstract idea analysis by requiring examiners to include critical limitations in their analysis.

2. Automation Can Be Protected. There's a difference between automating *a known manual process* and automating *a process that is not known to have been previously performed manually*. The latter can be patent-eligible. Thus, a critical eligibility distinction has been made between processes that **have been** *performed manually* and processes that **could be** *performed manually*.

3. Preemption is a Major Factor. Patent owners and applicants should show that the result of the claimed invention can be performed in other ways (especially if those ways are less desirable than the claimed invention). Evidence that other rules and processes could be developed may tip the scales in the favor of eligibility.