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Unlocking revenue opportunities in software patent portfolios after *Enfish*

Following the recent Federal Circuit decision in *Enfish*, owners of idle software patent portfolios can efficiently identify patents which might produce revenue opportunities

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Beginning with the Supreme Court's 2006 *eBay* ruling – which restricted the availability of injunctive relief – court rulings and legislation in the United States have increased the challenges facing rights holders trying to obtain relief for patent infringement, including obviousness (*KSR*, 2007), damages (*Cornell* and its progeny, beginning in 2009), post-grant review (the America Invents Act, 2011), Section 101 (*Alice*, 2014) and indefiniteness (*Nautilus*, 2014). These challenges have had a corresponding chilling effect on rights holders' willingness to invest in monetising their portfolios. *Alice* and its progeny have had a particularly significant effect on software patent monetisation due to the increased risk and uncertainty relating to patentability.

However, the Federal Circuit's decision in *Enfish, LLC v Microsoft Corp* (822 F 3d 1327 (Fed Cir 2016)) marks a definite change in direction. Far from being another blow to rights holders, the case should increase the monetisation value of software patent portfolios by clarifying the standards for software patentability under *Alice*.

For the first time since *Alice*, *Enfish* provides some direction to holders of software patents interested in analysing their portfolios to identify the best candidates for monetisation. First, it provides direction on how to apply the *Alice* abstract idea test. Second, it points rights holders to a discrete information source for evaluating the likelihood that their software patents would stand up against *Alice*. In sum, *Enfish* indicates that holders of software patents can prioritise patents for success against an *Alice* challenge simply by cataloguing information from each patent's summary and background of the invention – an efficient and low-cost diligence method.

Specification is key

Courts have often evaluated patent eligibility questions as threshold issues before the development of evidence or even claim construction. The record from which to draw to evaluate patentability is therefore limited primarily to the patent itself. Thus, the analysis in *Enfish* drew heavily from the patent's own description of its benefits – that is, what difference the invention would make (822 F 3d at 1337-39).

Because the *Enfish* patent's specification taught that the claimed database technology improved upon prior art databases – including increased flexibility, faster search times and smaller memory requirements – the Federal Circuit found that the district court had erred in finding the claims non-patentable. In particular, the Federal Circuit emphasised that the district court had "downplayed the invention's benefits" as described in the specification (*id* at 1337-38).

Patents often recite the benefits of the invention in the background and summary sections before the detailed description of the invention. These provide a discrete data source for the efficient review of software patents to determine their susceptibility to challenges under *Alice*, as refined in *Enfish*.

Since *Enfish* was issued in May 2016, additional Federal Circuit and district court opinions have reinforced its teachings regarding the value that the specification can provide in defeating a patent eligibility challenge. For example, in *McRo v Bandai Namco Games* the Federal Circuit again preserved a patent's validity under step one of *Alice*, based on the benefits of the invention described in the specification, although the invention at first appeared to be simply the application of a computer to a known technique (No 2015-1080, 2016 US App LEXIS 16703 (Fed Cir, September 13 2016)).

The patent in *McRo* described and claimed the automation of an animation technique which had previously required the manual input of an artist. As in *Enfish*, the court relied on the patent's specification to determine that the patent's ordered combination of claimed steps was not directed to an abstract idea under *Alice* (*id* at *25). The specification provided the necessary teaching to demonstrate that the claimed steps did not simply reproduce a known technique on a generic computer.

Specifically, the court followed *Enfish*'s lead in analysing the specification, explaining: "As the specification confirms, 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" (*id*). At first glance, the patent appeared to recite merely animating facial expressions in a way that had long been carried out manually. However, because the patent's specification described how it provided an alternative process for automating the animation process, the court concluded that the claim recited eligible subject matter under *Alice*'s first step.

The importance of answering the question "What difference does the invention make?" is not limited to

step one of *Alice*. It can also play a significant role in the analysis of step two. In *BASCOM Global Internet Servs v AT&T Mobility LLC*, the Federal Circuit opened its opinion with an extensive discussion of the patent's invention relating to the filtering of content received over the Internet (No 2015-1763, 2016 US App LEXIS 11687, *3-8 (Fed Cir, June 27 2016)). Citing the patent's specification, the court outlined several examples of prior art to establish the technological field from which the invention arose (*id* at *3-5). Then, against this background, the court described how the patent "describes its invention as combining the advantages of the then-known filtering tools while avoiding their drawbacks" (*id* at *5).

Later, when addressing patent eligibility under *Alice*, the court noted that, unlike in *Enfish*, "the claims and their specific limitations do not readily lend themselves to a step-one finding that they are directed to a nonabstract idea" (*id* at *18). However, *BASCOM* did not set *Enfish* aside. Instead, the court moved its analysis of the patent's specification to step two of *Alice* (*id* at *19, 21, 23 and 25). Citing the same sections discussed in the opening of the opinion, the court analysed "the inventive concept described and claimed" in the patent (*id* at *21) and how the patent describes "its particular arrangement of elements is a technical improvement over prior art" (*id* at *23) – that is, what difference the invention makes. Finding that the "claims may be read to improve an existing technological process", the court concluded that the patent was directed to patent-eligible subject matter (*id*). Thus, the ability to identify the technical benefits of the invention through the teachings of the specification helped to establish the patent's eligibility.

Beyond the Federal Circuit, district courts have also begun to adopt *Enfish*'s guidance to determine what difference the invention makes. For example, in *Bruce Zak v Facebook, Inc*, the district court began its analysis under *Enfish*'s mandate to determine whether the claim at issue was "directed to the improvement of the functioning of the computer itself" (No 15-13437, Dkt 19 (ED Mich, September 12 2016)). As in *BASCOM*, the court was unable to definitively determine what difference the invention made under step one of *Alice* alone (*id* at *16). Turning to step two, the court noted that the patent was directed to more than merely targeting and restricting communications on a computer (*id* at *21). Instead, the combination of elements was sufficient to render an otherwise abstract idea patent eligible.

This result appears to have been motivated by disclosures in the patent's background section. In introducing the patent, the district court explicitly noted that "the Background of the Invention" of the '720 patent outlined the 'difficulties' experienced by prior entities when attempting to maintain their websites using previously available techniques" (*id* at *5). Further, the specification "describes its invention as providing non-technical users control over the content of a website without the need for more technical personnel to assist and as also providing users the ability to create, modify, or delete content automatically" (*id*). Although at first glance claiming "creating, modifying, or deleting" content appeared to be directed to an abstract idea, the context of the invention and the invention's description of how it provided technical improvements over the prior art was sufficient to sustain patent eligibility under *Enfish* and *BASCOM*.

Enfish and its growing collection of progeny highlight an important reality: a rights holder can bolster the likelihood that a software patent covers eligible subject matter by remaining focused on answering the simple question, "What difference does the invention make?" Whether under step one or two of *Alice*, answering this question can provide the key to patentability. This focused evaluation can simplify the validity analysis and provide a method for identifying those software patents in a portfolio with the best likelihood of surviving a subject-matter eligibility challenge.

Practical effect of *Enfish*

Enfish poses a straightforward question: does the claimed software invention improve the function of a computer or does it improve the speed of performing an algorithm merely by executing it on a computer? If the former, *Enfish* teaches that *Alice* does not apply. If the latter, the court must consider the claim's patentability under *Alice*.

Within this analysis lies a practical consideration which explains many Federal Circuit decisions: if the court can answer the question, "What difference does the invention make?", it often rules in the patentee's favour. If it cannot answer that question, it nearly always rules for the accused infringer. However, the Federal Circuit has not articulated this fundamental underlying question in plain language.

Section 101 allows the protection of "new and useful" improvements. Applied practically, this language suggests that if an alleged invention makes a difference – a benefit over the prior art – it is patentable. If it does not make a difference – it provides no benefit over the prior art – it is not patentable.

Alice deviated from the practical consideration of a claimed invention's advance over the prior art. Instead of asking, "What difference does the invention make?", *Alice* introduced the question, "Are the claims directed to a patent-ineligible concept?" This question cannot be applied practically and consistently, as is evident from the uncertainty emerging from its application in litigation over the last two years.

Enfish pulls *Alice* back to a more practical approach for computer-related technologies. Giving respectful consideration to the principles articulated in *Alice*, *Enfish* refines the threshold question to: "Are the claims directed to an improvement to computer functionality?" This question aligns much more closely with, "What difference does the invention make (to a computer)?"

To answer this question, *Enfish* directs holders of software patents to a key section of the patent as a potential firewall against *Alice* challenges: the specification's description of the invention's benefits.

TABLE 1. What difference does it make? (*Alice* + *Enfish* patent portfolio diligence model)

Patent	Described prior art	Prior art limitations	Invention benefits
6,163,775 (*Enfish*)	1. Relational database 2. Object-oriented database	1. Slow search time 2. High memory usage 3. Data structure restrictions 4. No full text or graphics integration	1. Faster search 2. Lower memory usage 3. Increased flexibility 4. Improved integration

TABLE 2. The *McRo* patent and the *Enfish* eligibility review – a pass

Patent	Described prior art	Prior art limitations	Invention benefits
5,987,606 (*BASCOM*)	1. Filtering software on local computers 2. Filtering software on a local server 3. Filtering software on remote servers	1. Local: required individualised software 2. Local and remote servers: no single set of filters appropriate for all users	1. Integration of prior art benefits without the limitations 2. Individually customisable 3. Secure from user interference
6,307,576 (*McRo*)	1. Manual determination of animated facial expressions	1. Slow animation process 2. Reliance on an individual's preferences 3. Low frame rate requiring interpolation	1. Automated animation 2. Improved animation speed 3. Increased frame rate 4. Improved integration 5. Consistent preference selections

TABLE 3. The *Alice* patent and the *Enfish* eligibility review – a fail

Patent	Described prior art	Prior art limitations	Invention benefits
5,970,479 (*Alice*)	1. Hedging investments through additional contracts or swaps	1. Limited phenomenon coverage 2. High expenses to hedge 3. Limited to indirect management of risk	1. Improved speed by carrying out prior art with a computer 2. Decreased cost of prior art through use of computer

Efficient patent portfolio diligence can unlock revenue opportunities

Patent monetisation has become more difficult since 2006, but innovative entities continue to invent and total patent filings continue to increase. Thus, innovative companies have compiled portfolios of potentially valuable patent assets, but often have not invested in monetisation and enforcement based on uncertainty and perceived difficulty of enforcement and revenue generation.

This chill on the monetisation market has led to yet another consequence: even when the patent laws turn more in rights holders' favour (as recent developments suggest), entities that have compiled large portfolios struggle to figure out where to start in evaluating those portfolios to identify potentially valuable assets. Portfolio diligence is commonly perceived as requiring a major investment in in-house or outside counsel and as subject to significant uncertainty and risk.

However, *Enfish* and subsequent cases signal a different way forward. We have identified efficient approaches to begin the portfolio diligence process which revolve around asking, "What difference does the invention make?" Careful analysis of this question for every patent in the portfolio can provide insight into whether a court would find that the claims are "directed to a patent-ineligible concept" or whether the second step of the *Alice* test is avoidable in its entirety (*Enfish*, 822 F 3d at 1335 (citing *Alice Corp Pty Ltd v CLS Bank Int'l*, 134 S Ct 2347, 2355 (2014)).

Efficient portfolio diligence requires techniques which do not depend upon an in-depth analysis of every patent as a whole, but which do incorporate some subjective judgement from a skilled practitioner. For software patent portfolios, *Enfish* and its progeny provide excellent guidance on a diligence methodology.

A review of the background of the invention section of the *Enfish* patents in suit provides guidance for rights holders on where to look for the benefits of the patented inventions. For example, the review states:

> *Typically, these restrictions [in prior art] cause RDBMS databases to include a large number of tables that require a relatively large amount of time to search. Further, the number of tables occupies a large amount of computer memory (U.S. Pat. No. 6,151,604 at 1:56–60).*
>
> *Apart from the limitations previously described, both the relational and object oriented [prior art] models share important limitations with regard to data structures and searching (*id *at 2:4–6).*
>
> *Thus, the current information management systems do not provide the capability of integrating full text or graphics data entry with the searching mechanisms of a database (*id *at 2:19–22).*
>
> *The present invention overcomes the limitations of both the relational database model and object oriented database model by providing a database with increased flexibility,*

"Efficient portfolio diligence requires techniques which do not depend upon an in-depth analysis of every patent as a whole, but which do incorporate some subjective judgement from a skilled practitioner. For software patent portfolios, Enfish *and its progeny provide excellent guidance on a diligence methodology"*

Action plan

Enfish and its progeny have begun to bring certainty to the analysis of software patent eligibility under Section 101 and *Alice*. Accordingly, rights holders now have tools to reduce the risk in monetising and enforcing software patents. Pointers include the following:

- Ask, "What difference does it make?" Before approaching a licensee or filing an infringement suit, determine whether you can answer this basic question about the invention. If you cannot, the effort might not be worth the investment.
- Use the specification. Look at the patent's specification to determine whether it describes a technical benefit over the prior art. If so, that description can be used to defeat a subject-matter eligibility challenge.
- Create effective portfolio management. Record the specification's description of what difference the invention makes for every software patent in the portfolio. Use this list to prioritise those patents with the best technical benefits, which will help not only with Section 101, but also when it comes to establishing validity and damages.

> *faster search times and smaller memory requirements and that supports text attributes. Further, the database of the present invention does not require a programmer to preconfigure a structure to which a user must adapt data entry (*id *at 2:23-29).*
>
> *The present invention also provides for the integration, into a single database, of preexisting source files developed under various types of application programs such as other databases, spreadsheets and word processing programs (*id *at 2:35-39*).*

These benefits alone – without any factual development outside the four corners of the patent itself – provide critical answers to the question of "What difference does the invention make?" The invention increases database flexibility (makes the database easier to use), drives down search times (makes the database faster), reduces memory requirements (makes the database less burdensome for the system) and integrates varied content (again, makes the database easier to use).

The Federal Circuit drew heavily from these articulated benefits to find that the claims were not directed to an abstract idea (*Enfish*, 822 F 3d at 1333; 1337-38; 1339). In particular, it explained: "Moreover, our conclusion that the claims are directed to an improvement of an existing technology is bolstered by the specification's teachings that the claimed invention achieves other benefits over conventional databases, such as increased flexibility, faster search times, and smaller memory requirements (*id* at 1337). The specification's disparagement of conventional data structures, combined with language describing the 'present invention' as including the features that make up a self-referential table, confirm that our characterization of the 'invention' for purposes of the § 101 analysis has not been deceived by the 'draftsman's art' (*id* at 1339)."

Rights holders can use this guidance to determine which of their computer-implemented patent claims have a better chance of surviving an *Alice* patentability challenge. An example framework for organising data from a portfolio of patents might look like the approach set out in Table 1.

Collecting and organising this data provides a snapshot of how a court may view the invention under the *Alice* test. Patents which distinguish the technical benefits of the invention over prior art approaches likely have a greater chance of surviving (or deterring) a patentability challenge under Section 101.

The cases following *Enfish* demonstrate how effective this high-level analysis can be. In each instance, our proposed method indicates that the court ruling upholding the patent's eligibility should not have come as a surprise. For example, in *BASCOM*, the invention's benefits laid out in the specification, which the court relied on, demonstrate why the improvement over the prior art made a difference beyond the simple use of a computer. A review of *McRo*'s specification similarly demonstrates that a full examination would indicate patent eligibility under *Enfish* (see Table 2).

Conversely, this method can also provide early warning about patents that may not survive an *Alice* challenge. For example, an analysis of the patent at issue in *Alice* would have raised doubts about its subject-matter eligibility because it would have been difficult to determine what benefits the patent actually provided beyond simply implementing a known technique on a computer (see Table 3).

This snapshot immediately reveals that the '479 patent at issue in *Alice* would be highly susceptible to a subject-matter eligibility challenge. Where the patents at issue in *Enfish*, *BASCOM* and *McRo* addressed the technological improvements over the prior art, the *Alice* patent simply described how to improve the efficiency of the prior art method by doing the same exact process with a computer rather than by hand. There was no 'inventive concept' to save the patent. When investigating what difference the invention makes, the only difference for the '479 patent was applying a known technique to a computer. *Alice*, *Enfish* and numerous other cases make clear that this is insufficient.

By recording both positive and negative information for existing patents, software patent portfolio holders can make better decisions when investing in enforcement and monetisation. They can also strengthen their portfolios going forward by articulating what difference an invention makes – and how the specification describes those benefits – before filing a new application. The database created from this information will further benefit the portfolio owner in addressing other issues – including obviousness and damages. If the patent articulates clear technical benefits over prior art, it likely has a better shot at surviving an obviousness challenge, establishing credible damages and persuading the Patent Trial and Appeal Board, the court or the jury of its merit.

Practical guidance

Enfish provides practical guidance on how to determine a computer-implemented patent's susceptibility to Section 101 under *Alice*. Software patent holders can apply this guidance in an efficient, practical manner to unlock their portfolios and identify potential revenue opportunities, while minimising time invested in high-risk patents. *iam*

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