Legal Update

Software patenting in a state of flux

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ABSTRACT Computer software is an essential resource for database marketers, with a wide variety of products available with increasingly sophisticated functionality. However, some database marketers and the software companies that supply them may not have considered the extent to which such software products can be protected as patented inventions. This issue has been the subject of much debate in recent years, and has led to various high-profile cases in both the English Patents Courts and the European Patent Office. This paper looks at the current state of play and assesses whether we are any closer to knowing what is patentable and what is not.

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INTRODUCTION

Patents provide inventors with the possibility of a 20-year monopoly for their inventions, allowing them to go to court to prevent or restrain others from infringing their rights. In the context of computer software, this means that if a patent has been obtained, the patent owner can prevent unauthorised activities relating to the software invention described in the patent's claims if his case is successful. This affords the inventor strong protection because he can take action even where the alleged infringer has no knowledge of the patented software and come up with his own completely independent version. The situation is quite different for copyright, the other principal form of intellectual property protection for software, which requires the

alleged infringer had copied the software that was said to have been infringed.

However, for policy reasons, computer software like a variety of other types of innovations including business and mathematical methods and presentations of information are excluded from patentability to an extent.¹ The tricky question is how and where to draw the line, and the positions currently being taken in the UK Courts, the UK Intellectual Property Office (IPO) and in the European Patent Office (EPO) are considered below.

The extent to which computer software patenting is permitted will inevitably affect database marketers and the software development companies that supply them. Small and medium-sized companies that develop marketing

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programs, be they specialist suppliers to the database marketing industry or database marketers who write software programs themselves, may not have the wherewithal to secure patent protection or to carry out appropriate searches to determine whether their new programs could infringe the patents of third parties. They could therefore run into problems if the extent of patent protection is broadened. Conversely, larger companies developing database marketing software might welcome a greater degree of protection for their innovations.

Irrespective of the position companies take on this, both the would-be patent owners and the potential infringers would benefit from increased legal certainty if the position on what is patentable and what is not was made clear. This was far from the case when the author last assessed the situation.² The remainder of this paper assesses whether there has been any improvement.

THE LEGAL PROVISIONS

One of the key requirements for the grant of a patent in the United Kingdom, Europe and various jurisdictions further afield is that the patent does not relate solely to so-called 'excluded' subject matter. In the United Kingdom, the main types of subject matter which can fall foul of this requirement are set out in Section 1(2) of the Patents Act 2007 (the 'Act') which states as follows:

It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of –

- (a) a discovery, scientific theory or mathematical method;
- (b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;
- (c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a *program for a computer*;

(d) the presentation of information;

but the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to that thing *as such*. (emphasis added)

The UK provision is similar to the corresponding law applied by the EPO, which is contained in Article 52 of the European Patent Convention (EPC). Both declare that programs for computers are excluded (along with other sorts of subject matter that can be relevant to software developers such as business methods and mathematical methods), but only insofar as the patent or application relates to a computer program *as such*.

The *as such* proviso at the end of the provision introduces a degree of ambiguity over where to draw the line, and the UK courts, the UK IPO and the EPO have been left to grapple with this difficult matter. Since the legal provisions to be followed in these jurisdictions (Section 1(2) and Article 52) are broadly equivalent, the approaches taken would, in a perfect world, be consistent.

THE POSITIONS TAKEN IN THE UNITED KINGDOM AND THE EPO – POLES APART?

The Aerotel/Macrossan case and the current UK test

The test currently being applied by the English Courts and by the UK IPO when trying to decide whether an invention in the field of computer software is patentable and not excluded was formulated by the Court of Appeal in the case of *Aerotel v Telco and Macrossan's Application*.³ Unusually, the Court of Appeal in this case had to decide on the appeals from two decisions that had arisen in rather different circumstances. The first concerned a court action brought by Aerotel against a company called Telco for infringement of

its granted patent. The patent did not relate to computer programs but was concerned with telephone exchange systems that were said to fall within other excluded subject matter of Section 1(2) of the Act. The second appeal, concerning Mr Macrossan's Application, was an appeal from the High Court's decision to uphold the refusal of a patent application concerned with software-driven methods of producing company formation documents. The High Court had held that these were excluded both as a method of performing a mental act and as a program for a computer.

After a lengthy analysis of the relevant case law in the United Kingdom, EPO and in other jurisdictions, the Court of Appeal concluded that, historically, there had been three approaches to assessing patentability that it referred to as (1) the 'contribution' approach; (2) the 'technical effect' approach; and (3) the 'any hardware' approach. Weighing up the merits or otherwise of the three, the Court flatly rejected the 'any hardware' approach. Assessing patentability in this way would allow patents to be granted for new things falling squarely within the exclusions where the claims included a reference to hardware, no matter how trivial or mundane. The Court gave examples of patents potentially being granted for a book containing a new story or a CD player or MP3 player loaded with new music (both subject matter excluded under Section 1(2)(b) because they should instead be protected by copyright) and suggested that to allow patents for such 'inventions' would not be 'intellectually honest'.

Other key requirements for a patent to be granted are that the claimed invention is new and inventive. The 'contribution' approach to assessing patentability involves considering the inventive aspects of the invention described in the patent, and deciding whether they fall solely within subject matter that is excluded – if so, and the only inventive aspects are the excluded

subject matter, the invention is not patentable; if not, and there are inventive aspects in subject matter that is not excluded (for example, if the inventiveness is somehow brought about through the particular use of hardware referred to in the claim), the invention can then be patentable. Although the Court of Appeal thought that this approach had a lot to be said for it, it felt bound by the rules of precedent to follow its previous decision in the *Merryl Lynch* case.⁴

In this earlier case, the Court of Appeal had used a 'technical effect' approach that involved assessing whether the invention defined in the claims made a technical contribution to what was already known. When making this assessment, novel or inventive aspects arising out of excluded subject matter would not suffice. The Court of Appeal in *Aerotel* adopted this approach and formulated a test for assessing whether something is patentable involving four steps:

1. properly construe the claim;
2. identify the actual contribution;
3. ask whether it falls solely within the excluded subject matter;
4. check whether the actual or alleged contribution is actually technical in nature.

Applying this test to the facts of the two actions, the court overturned the judge's finding on the *Aerotel* case, ruling that the patent claims involved a contribution that came from a new combination of hardware (a particular arrangement of the various telephone exchanges) that did not fall solely within excluded subject matter and was technical in nature. However, the Court affirmed the ruling in the *Macrossan* case, with Mr Macrossan's patent application held to be excluded from patentability.

Following the decision, the UK IPO released a practice notice saying that it would adopt this four-stage test when

assessing patentability going forward, and the test has since that time been applied by both the IPO and the English Courts.

The position in the EPO

In its comprehensive review of earlier cases, the Court of Appeal in *Aerotel/Macrossan* took a close look at the law applied when assessing patentability in the EPO. Having concluded that several of the EPO decisions had involved the ‘any hardware’ approach with which it disagreed so strongly, and recognising it was desirable for a consistent approach to be taken in the United Kingdom and the EPO, the Court of Appeal suggested a number of questions that might be considered by the EPO’s highest judicial body, the Enlarged Board of Appeal (EBA). However, the Court of Appeal has no power to refer questions to the EBA, so instead it suggested that the EPO President (who does have a power to refer questions where previous EPO decisions contradict one another) might make a referral.

The questions the Court proposed, which go to the heart of how patentability is to be assessed, were as follows:

1. What is the correct approach to adopt in determining whether an invention relates to subject matter that is excluded ...?
2. How should those elements of a claim that relate to excluded subject matter be treated when assessing whether an invention is novel and inventive ...?
3. And specifically:
 - (a) Is an operative computer program loaded onto a medium such as a chip or hard drive of a computer excluded ... unless it produces a technical effect, if so what is meant by ‘technical effect’?
 - (b) What are the key characteristics of the method of doing business exclusion?

It did not take long for the EPO to react to this suggestion. Less than a month later, a decision was handed down by one of the

EPO’s Technical Boards of Appeal (TBA) on Duns Licensing’s patent application.⁵ The TBA had read the Court of Appeal’s decision in *Aerotel/Macrossan* and addressed in a very forthright manner the issue of whether questions should be referred to the EPO’s enlarged board. Like the English Court, the TBA reviewed the previous EPO case law. However, in stark contrast to the Court of Appeal, the TBA held that the EPO’s rulings were largely consistent with one another, and that its approach to patentability (which the English Court had referred to as the ‘any hardware’ approach) was the correct one. The questions suggested by the Court of Appeal were considered but curtly rejected with the TBA asserting that the so-called ‘technical effect’ approach adopted in the United Kingdom was ‘irreconcilable’ with the underlying law of the EPC. The Court of Appeal also received a response from the then EPO president, Professor Pompidou, who responded in rather more measured terms in a letter stating that he too considered the EPO’s case law to be consistent, and that there was no need for a referral.

‘Any Hardware’ versus ‘Technical Effect’

Before moving on to look at the current state of play, it is worth pausing to compare the UK and EPO tests, and their implications. As explained above, the ‘technical effect’ approach adopted in the English Courts and the UK IPO involves incorporating aspects of the need for an innovation to be inventive into the requirement that it is not excluded under Section 1(2) of the Patents Act 1977 (and corresponding Article 52, EPC). This presents a higher hurdle (applied through the four-stage test of *Aerotel/Macrossan*) for patent applicants and owners in the field of computer software to overcome than the ‘any hardware’-type test applied in the EPO where excluded subject matter and

inventive step are considered separately. Practically speaking, this means that, the contribution made by the invention (which is directly linked to what makes it inventive) must not concern the excluded subject matter and must be technical in nature in the United Kingdom. In contrast, the mere mention of any hardware (no matter how well-known and mundane) can be enough to get over the hurdle of patentability in the EPO.

That said, and although these approaches may seem poles apart, it should be noted that in many cases the distinction is one of form rather than of substance and the end result turns out to be the same. This is because, as the TBA noted in *Duns Licensing*, one of the key principles that the EPO applies when assessing novelty and inventiveness is that these can only be based on the technical features of the claimed invention. Non-technical features (to the extent they do not interact with the technical ones) are ignored and cannot help the patent or patent application meet these requirements.

This means that, while many patents and applications might get past the EPO's test for excluded subject matter where they would fail in the United Kingdom, many of those patents and applications would then fall foul of the requirements of novelty and/or inventive step in the EPO. Thus, in many cases, they would be rejected in both jurisdictions and the overall result would be the same. That said, the fact that an evaluation of inventive step requires an assessment of what was already known can present problems in the field of computer software, because carrying out searches for prior known materials is difficult from a practical perspective.⁶

Recent developments in the United Kingdom and EPO

Things have moved on a little in both the United Kingdom and the EPO since the key decisions outlined above. In the United

Kingdom, the Court of Appeal had another chance to consider the approach to be taken when assessing excluded subject matter in *Symbian v Comptroller*,⁷ and in particular to look again at the four-step test it had put in place in *Aerotel/Macrossan*.⁸ The decision must be given particular weight because Lord Neuberger came down from the United Kingdom's highest court (the House of Lords) to join two of the Court of Appeal judges and hear the case. Symbian's patent concerned software methods for accessing data in dynamic link libraries (or *DLLs*) and it had been held to cover excluded subject matter using the *Aerotel/Macrossan* test in the UK IPO. This finding was overturned in the High Court, with the judge finding that the IPO had applied the *Aerotel/Macrossan* test too narrowly, and ruling that the improved reliability of the hardware achieved by the software took it outside the computer program exclusion. The Court of Appeal reached the same conclusion.

Although it did not change the test to be applied, this decision widened the extent to which software is seen to be patentable in the United Kingdom – arguments can be made that any piece of software makes a computer work better, and the *Symbian* ruling suggests that in some circumstances such arguments will succeed.

It is notable that in its assessment of the law to be applied, the Court was at pains to point out that *Aerotel/Macrossan* had not changed the United Kingdom's earlier law (from *Merrill Lynch* and other earlier cases). The Court also considered the position in the EPO and, perhaps surprisingly given it referred to the strong and contrary views expressed in the two jurisdictions, it suggested the great majority of UK and EPO cases were reconcilable. It considered that the absence of any decision from the Enlarged Board of the EPO and the inconsistencies it perceived between the various Technical Board rulings meant that it should not depart from its previous

precedents to follow the EPO approach. The current test in the United Kingdom therefore remains the four-stage test from *Aerotel/Macrossan*, and this is the approach that has been taken in the subsequent cases.

Perhaps most notably, the test was applied again in *Aerotel v WaveCrest*,⁹ a further case brought by Aerotel concerning infringement of the same telephone exchanges patent where the patent was this time invalidated on application of the four-stage test from Aerotel's earlier case. While this latter decision may seem strange, it is a stark example of how inventive step affects the English assessment of excluded subject matter – searches for materials available before the patent was filed had been conducted for the *WaveCrest* case, and these had an impact upon the contribution the patented invention was found to have made when the *Aerotel/Macrossan* test was applied the second time around.

Since *Symbian* however, questions on software patentability have now been referred to the EPO's Enlarged Board. In what many viewed as an about turn, Professor Pompidou's successor to the position of EPO president, Alison Brimelow referred questions on the exclusion of computer programs from patentability to the EBA towards the end of last year.¹⁰ The referral was made on the basis of an EPC provision that requires divergence in the previous decisions of the boards of appeal, and this surprised many practitioners because the decisions that Alison Brimelow cited as diverging, all date from before Professor Pompidou's letter stating that no referral was needed.

The questions referred are as follows:

1. Can a computer program only be excluded as a computer program as such if it is explicitly claimed as a computer program?
2. (a) Can a claim in the area of computer programs avoid exclusion ... merely by explicitly mentioning the use of a computer or a computer-readable data storage medium?
- (b) If question 2(a) is answered in the negative, is a further technical effect necessary to avoid exclusion, said effect going beyond those effects inherent in the use of a computer or data storage medium to respectively execute or store a computer program?
3. (a) Must a claimed feature cause a technical effect on a physical entity in the real world in order to contribute to the technical character of the claim?
- (b) If question 3(a) is answered in the positive, is it sufficient that the physical entity be an unspecified computer?
- (c) If question 3(a) is answered in the negative, can features contribute to the technical character of the claim if the only effects to which they contribute are independent of any particular hardware that may be used?
4. (a) Does the activity of programming a computer necessarily involve technical considerations?
- (b) If question 4(a) is answered in the positive, do all features resulting from programming thus contribute to the technical character of a claim?
- (c) If question 4(a) is answered in the negative, can features resulting from programming contribute to the technical character of a claim only when they contribute to a further technical effect when the program is executed?

Although these questions are quite different from those proposed by the Court of Appeal in *Aerotel/Macrossan*, the referral (if answered substantively) is expected to have a profound effect on the ambit of the computer software exclusion. Question 2 is of particular interest for the United Kingdom because it goes to the heart of whether the 'any hardware' or the 'technical effect' approach should be used when assessing whether an invention in the field of computer software is excluded. Mindful of this, the UK IPO recently announced that it would not appeal the decision in the *Symbian* case to the House of Lords because it agreed with the Court of Appeal that it would be premature to seek a view from the House of Lords when

European practice is likely to be settled shortly.

WHERE WE GO FROM HERE

Like many other industries, database marketing is increasingly dependent on computer software, and the extent to which software is patentable could have significant implications for database marketers and the software developers who supply their programs. Some are likely to be for and others against the wider availability of patents for computer software, but both would benefit from the increased certainty of knowing what is and what is not patentable.

For several years, the approaches taken in the United Kingdom and in the EPO to whether software innovations are excluded from patentability have been diametrically opposed, and despite the English Court of Appeal's suggestions in the *Symbian* case, it is difficult to see how the tests currently being applied in the two jurisdictions can be reconciled with one another. It must be acknowledged that in many cases the differences in approach may make no difference to the overall result – many patents and applications held not to be excluded in the EPO that would be

deemed unpatentable in the United Kingdom will be rejected by the EPO for lack of novelty and/or inventiveness. However, the approaches taken could become a little more uniform after the Enlarged Board addresses the EPO President's recent questions. Although the UK IPO may have been a little optimistic in suggesting that we could receive this guidance shortly, it is to be hoped that when it does come, it provides the software industry and those it supplies with the clarity they need.

REFERENCES AND NOTES

- 1 Section 1(2), Patents Act 1977 and Article 52 of the European Patent Convention (EPC) – see below.
- 2 Nettleton E. (2005) Patenting database marketing software. *Journal of Database Marketing and Consumer Strategy Management* 13(1): 93–97.
- 3 [2007] RPC 7.
- 4 [1989] RPC 561, CA.
- 5 T 154/04, [2007] EPOR 38.
- 6 For example, searching may be problematic because many earlier programs may have been written in source code.
- 7 [2008] EWCA Civ 1066; [2009] RPC 1.
- 8 [2007] RPC 7.
- 9 Decision of His Honour Judge Fysh, [2008] EWHC 1180 (Pat).
- 10 The EPO President referred the questions to the Enlarged Board in October 2008. These are now pending as case G3/08 before the EBA.