

**From the Chief Executive and
Comptroller-General**

The Registry of the Enlarged Board of Appeal
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- 1. Mai 2009

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Our ref:
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Date 30 April 2009

Dear Registrar,

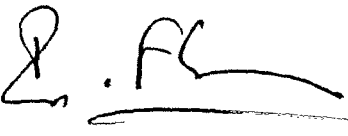
Enlarged Board of Appeal Case G 3/08

I am pleased to enclose the United Kingdom's amicus curiae submission in respect of the above case.

This is filed in response to the invitation of the Enlarged Board of Appeal and in accordance with Article 10 of the Rules of Procedure of the Enlarged Board of Appeal (OJ EPO 2007, 303 ff).

The submission has been prepared by Mr Simon Malynicz, Counsel.

The United Kingdom looks forward with considerable interest to the Enlarged Board's decision.

Yours faithfully,


Ian Fletcher

**IN THE ENLARGED BOARD OF APPEAL
OF THE EUROPEAN PATENT OFFICE**

**EPO CASE G3/08
PATENTABILITY OF COMPUTER PROGRAMS**

**AMICUS CURIAE SUBMISSION OF
THE UNITED KINGDOM**

Procedural background

1. These are the amicus curiae submissions of the United Kingdom in Case G3/08 published in Official Journal of the EPO¹ in accordance with Article 10 of the Rules of Procedure of the Enlarged Board of Appeal².
2. On 22 October 2008, the President of the European Patent Office referred various points of law to the Enlarged Board of Appeal under Article 112(1)(b) of the European Patent Convention ('EPC') on the application of the exclusion of computer programs as such within the meaning of Article 52(2)(c) and (3) EPC.
3. For convenience, the questions are set out below:-

1. Can a computer program only be excluded as a computer program as such if it is explicitly claimed as a computer program?

¹ (1/2009 at p.32)

² As amended by the Decision of the Administrative Council of 7 December 2006, CA/D 15/06, which came into force on 13 December 2007.

2.(a) *Can a claim in the area of computer programs avoid exclusion under Art. 52(2)(c) and (3) 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?*

The scope of the inquiry

4. The United Kingdom submits that one way of conceptualising the different sorts of computer related inventions that are likely to be involved in the inquiry, and where they exist in terms of patentability, can be as illustrated in Figure 1 below:

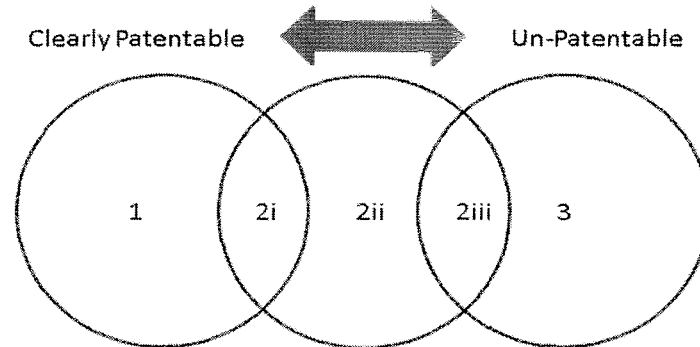


Fig 1

5. One can theorise three broad categories of computer related invention. Circle 1 is the most straightforward case and comprises inventions where a computer program is involved and some other, real-world entity other than a computer is improved. Examples include an improved process control system for a factory production line, a computerised car braking system, or the program control for a washing machine. These are clearly patentable, on any view of Article 52 EPC.
6. Equally, Circle 3 entails inventions of other excluded matter (for example, for a better method of doing business, presenting information, or playing a game) which have been implemented using conventional computers, and using a new computer program to do so. These sorts of inventions are, of course, clearly unpatentable.
7. The contested territory is of course Circle 2. This area encompasses those applications which can be considered to be a better computer or computing device as a result of the use or execution of one or more computer programs. The United Kingdom would further divide this circle into the following three sub-categories:-

- Category 2(i) would be inventions in which the program interacts with the hardware of a general purpose computer in such way as to make it work better, for example to increase security, to reduce its power consumption or operation of the memory.
- Category 2(ii) would be inventions which are essentially an improvement in programming, i.e. where there is an improvement in the way the computer program works which is independent of the hardware it runs on such as a general purpose computer. Examples include methods of testing software and communication between programs.
- Category 2(iii) would be improvements in programs which can be characterised as “computerising” another exclusion, such as the programming of a mathematical method. Other examples include those applications that automate mental acts such as automated production of a program or system design.

8. In the United Kingdom’s view, of these, only Category 2(i) would be patentable.

The meaning of a “technical contribution”

9. In a long line of cases dating from *Vicom*³ to the present, the EPO has consistently characterised the key issue as being whether there is a “technical contribution” (or “effect”, or “character”). However, the precise meaning of “technical” has not been clear

10. It is clear that most of the other Article 52 EPC exclusions are not “technical”. To the scientist (if not to the financier), things like business methods and game rules are not “technical” things. Where matters become unclear is in relation to computer programs. To some people, it might appear that all computer programs, which, of necessity, run on highly technical pieces of equipment (i.e. computers)

³ T-0208/84 *Vicom/Computer-related Invention* [1987] 2 EPOR 74

are “technical”. However an approach that allowed all programs to be patentable simply by virtue of the fact that they ran on a piece of technical equipment would render the exclusion for computer programs totally meaningless, unless it were restricted to pure claims for software, for example “a computer program characterised by... [without mentioning any hardware.]”

11. Thus the concept of technical contribution must be conceived as amounting to a contribution over and above the expected “technical” effects of merely running the software on a computer and should mean the same thing as “does not wholly fall within the exclusions”. The United Kingdom encourages the Enlarged Board to look at the exclusions generally when attempting to understand the meaning of “technical contribution”.
12. The concept of “technical contribution” was established in the *Vicom* case and forms a common starting point in the interpretation of the approach to the patenting of computer programs in many European jurisdictions. The Technical Board of Appeal in their decision made it clear that the purpose of the concept of “technical contribution” was properly to capture the “computer program as such” exclusion of Article 52 EPC. By any understanding of the *Vicom* decision, it is also clear that the wording of Article 52 means that it is a test in its own right that has to be met without referral to any other articles. The fact that an application may be novel and inventive is of no relevance if the subject matter of the application is unpatentable – to hold otherwise would be to subvert the intended purpose of Article 52 EPC.
13. The United Kingdom therefore wishes to emphasise that to assess the technical contribution of a computer program as part of novelty and inventive step requirements of Articles 54 and 56 EPC is not the correct approach. If such an approach were followed it would effectively remove the computer program exclusions of Article 52 or at the very least render it obsolete. Furthermore this approach would also undermine the effect of the other exclusions which are not (at the moment) in question.

14. In addition, the compromising of Article 52 in this way will undoubtedly lead to confusion amongst patent examiners when assessing the patentability of any computer implemented invention. Specifically, the mere presence of the computer, or computer processing means of any type or any form in the claim may lead the examiner away from a proper consideration of the tenets of Article 52 in favour of the novelty and inventive step requirements of Articles 54 and 56 EPC. Such action on the part of the examiners would not only further undermine the Article 52 exclusion but ultimately lead to its eventual demise without any proper consideration by the signatories to the EPC.

15. What is also clear, in the United Kingdom's view, is that the meaning of a technical contribution should be a matter of substance rather than form. This has consistently been the approach of the UK courts whenever this issue has arisen. The EPO, however, appears to have moved in a different direction, adopting an analysis in *Pension Benefit*⁴ and *Hitachi/Auction method*⁵ for example, the effect of which was that any program on a carrier had a technical character and therefore escaped the exclusion.

The need for clarity

16. As stated above, the concepts of "technical effect" or "technical contribution" have emerged as a means of legal interpretation. However the divergence in approach on this issue leaves patent applicants in a position of legal uncertainty. Therefore the key policy objective for the Enlarged Board of Appeal should be, in the United Kingdom's view, to provide answers which are clear and workable by examining offices and give reasonable certainty to patent applicants and third parties.

⁴ T 931/95 *Pension Benefit* (2000)

⁵ T 258/03 *Hitachi/Auction method* (2004)

Other issues

17. In addition, there are issues that, in the United Kingdom's view, should inform the approach to an assessment of the proper limits of the exclusion.
18. There is nothing in the debates that framed the EPC that identify any clear public policy behind the computer program exclusion. As set out in the letter from the President of the European Patent Office (EPO) to the Enlarged Board of Appeal, the only policy that can be gleaned is that the framers purposely did not define the exclusion precisely. This left scope for the EPO and the national courts to work out the detail for this fast moving technology.
19. The exclusion must be given an appropriate ambit and not be the subject of "removal by construction." Any understanding of the ambit of the exclusion must take as its starting point the notion that the framers of the EPC sought to make a substantive exclusion in this area, and not one that could be easily circumvented by formalistic means. As will appear further below, the United Kingdom's suggested answers to some of the referred question are aimed at alerting the Enlarged Board to such dangers.
20. The issue of patentability in relation to computer implemented inventions has been, and still is, controversial. The arguments on both sides appear to be founded on economic considerations although these are not necessarily supported by any clear empirical evidence of European market effects.
21. On the one side, business, particularly larger corporations, believe that the economic justification for the existence of the patent system *per se* applies equally well to inventions which surround software development i.e. encouragement to invest in R&D and more and varied innovation as a direct result of the requirement that patents are published. Moreover patents provide a basis for industry transactions.

22. An opposing view, predominantly from proponents of open source software but also one advanced by many SMEs, is that patents should not be granted for computer programs. This view holds that, if available, companies will start to protect all their computer programs preventing ready access to source code. Furthermore, open source developers would be particularly vulnerable to infringement actions because their model allows the market full knowledge of the software that they are utilising. In addition, it is said, the traditional rationale for patent protection – that patents reward an undertaking for its R&D investment – does not seem to apply easily to computer programming activity. In general, the capital outlay required to engage in R&D in this sector is low compared with other R&D-intensive sectors.
23. There is clearly a balance that needs to be struck for industry which does not inhibit innovation and promotes competition.
24. It is submitted that the United Kingdom's stance provides the clarity and consistency that is needed by patent applicants and third parties and gives a meaningful interpretation of the exclusion which must have been the intention of the framers of the Convention.

Proposed answers to the referred questions

Q1. Can a computer program only be excluded as a computer program as such if it is explicitly claimed as a computer program?

Q2 (a) Can a claim in the area of computer programs avoid exclusion under Art. 52(2)(c) and (3) merely by mentioning the use of a computer or a computer-readable data storage medium?

25. The United Kingdom suggests that the first two questions can be dealt with together and that the answer to both should be in the negative.

26. A positive answer to the first question would be a triumph of form over substance and does not engage the policy behind Article 52 EPC whatsoever. If a computer

program itself is unpatentable, then simply claiming that program in another form should not enable an applicant to circumvent the exclusion.

27. A positive answer to the second question would also allow easy circumvention of the exclusion by adding formalistic language relating to the use of a computer or data-storage medium. Again, this would be to ignore entirely the policy of the exclusion.

Q2(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?

28. The United Kingdom suggests an affirmative answer to question 2(b). All computer programs inherently work on hardware in the sense that they all cause electrons to flow along wires in a computer in different ways. If this effect were sufficient for patentability then all programs would be patentable. A negative answer to this question would not engage any of the policy issues behind the exclusion.

Q3(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?

29. On the assumption that the question is intended to require a further technical effect beyond that inherent in the use of a computer or data storage medium, then the United Kingdom suggests that this question should be answered in the affirmative.

30. If the feature did not cause a technical effect on a real-world entity, then it would fall within other parts of excluded subject matter in Article 52 EPC such as a better business method, game, or method of presenting information. In the United Kingdom's three-ringed analysis of Figure 1 at paragraphs 4 to 8 above, this would also be unpatentable.

Q3(b) If question 3(a) is answered in the positive, is it sufficient that the physical entity be an unspecified computer?

31. In the United Kingdom's view, the answer to question 3(b) is that it may, in some circumstances, be sufficient that the physical entity be an unspecified computer. These cases fall within Circle 2 in Figure 1. Therefore, some of these inventions, such as encryption/decryption software, for example, may well be patentable because they make computers more secure. On the other hand, inventions which are essentially an improvement in programming or programs which can be characterised as "computerising" another exclusion in Article 52 EPC, would still be excluded in these circumstances, as explained earlier.

Q3(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.

32. This question presupposes a negative answer to 3(a), which means that what is being considered are features which do not cause a technical effect on a physical entity in the real world. Of necessity, these would be independent of the hardware used (as they would have no technical effect on the undoubtedly physical hardware). Therefore, a negative answer to 3(a) requires a positive answer to 3(c).

33. However, as stated earlier, the United Kingdom contends for a positive answer to question 3(a), so the question becomes hypothetical.

Q4(a) Does the activity of programming a computer necessarily involve technical considerations?

34. The United Kingdom suggests that this question should be answered in the negative. Like questions 1 and 2(a) this suggests a facile answer to a complex question and does not in any way engage the policy issues of the exclusion. If the activity of programming a computer necessarily involved technical considerations, then all computer programs – even those that ought to be excluded by the other

exclusions in Article 52, such as a computer program embodying a business method – would be patentable.

Q4(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?

35. The logical implication of an affirmative answer to 4(a) is an affirmative answer to 4(b). However, the United Kingdom contends for a negative answer to question 4(a) for the reasons given earlier.

Q4(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?

36. The United Kingdom suggests that the answer to question 4(c) should be given in the affirmative. However this then raises the issue of what a “further technical effect” is. The United Kingdom would refer to its analysis at paragraphs 4 to 8 above for its view on where the line should be drawn between those inventions that lie wholly outside the exclusions and those that do not. Thus, an improvement in programming which only improves the programming is an improvement in a computer program as such and thus does not contribute to the technical character of a claim. However, an improvement in programming which, for example, allows a more efficient sleep-mode activation, does contribute the requisite further technical effect.

30 April 2009

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