

**PATENTS ACT 1977**

APPLICANT Office Add-On Limited

ISSUE Whether patent application GB0802859.9 complies  
with section 1(2) of the Patents Act

HEARING OFFICER A Bartlett

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**DECISION****Introduction**

- 1 GB patent application number GB0802859.9 was filed in the name of Office Add-On Limited on 15 February 2008, claiming priority from an earlier US patent application US60/901868 filed 16 February 2007. The application is entitled "Email System" and was published as GB2446720 on 20 August 2008.
- 2 The substantive examination process comprised several rounds of correspondence through which novelty and inventive step objections reported by the examiner were overcome. However, the examiner and the applicant have failed to reach agreement as to whether the invention relates to excluded matter. The applicant's attorney, Dr Simon Davies of D Young & Co., requested a hearing to decide the matter. That hearing took place on 22 November where Dr Davies represented the applicant. Also in attendance were the inventor, Mr Bjarne Mess, the examiner, Mr Joe McCann, and the hearing assistant, Mr Andrew Hole.
- 3 Mr Mess gave a very informative demonstration of the invention at the hearing for which I am very grateful.

**The application**

- 4 The application explains that Email messages have developed since they were first conceived and are now routinely created using an html (hypertext mark-up language) editor in html format. A company will often wish to use a company logo in the signature block of their emails to give their emails a more professional image and more consistent corporate branding.
- 5 Previously there have been two conventional ways of providing a logo or other image in an email:
  1. Create a link to a web site where the logo (or image) is placed.

2. Embed the logo (or image) in the email automatically so the logo is considered a natural part of the email.

- 6 The application explains that problems exist with these methods. The first is that a spam filter, and also an anti-virus filter, can block the email because it is considered that a link or an embedded image might harbour unsafe (from a security viewpoint) or unwanted downloads. Also if a user opens an email when not online, then the link to the website where the logo (or image) is located will not work and the user will only see a red cross representing an unobtainable file.
- 7 Further, some spam filters will remove a logo or image that is placed within a signature block and include it instead as an attachment which the receiver of the email may not open and certainly will not see the email as intended by the sender. Other spam filters will remove the entire email as spam simply because a link is used in the signature part of the email.
- 8 Simply disabling the spam filter is of course not a viable solution to this problem. The present invention seeks to mitigate the above problems by encoding an image that is to be included within the signature block of an email in html format. This means that the image (and possibly the whole email) can pass through spam filters that would otherwise filter out the email or otherwise reject the embedded image or link. The receiving email client will present the email in a similar manner to a web browser, with the html-formatted image being displayed as an image.
- 9 Thus the invention seeks to allow the recipient of an email (which includes an image in its signature block) to see it as it was intended by the sender.
- 10 The claims I was asked to consider at the hearing were filed on 20 January 2011. They number 17 in total and claim 1 is the only fully independent claim. It reads:
  1. A method of sending an email in a communications system, the method comprising:  
creating an email including an image, wherein said image is included in a signature block of the email;  
converting the image to html format, wherein the converting includes converting pixels of the image to html dots; and  
transmitting the email including the converted image in html format.
- 11 The application also includes claims directed to a computer program for implementing the method of claim 1 and apparatus for implementing that method.

### **The Law**

- 12 Section 1(2) of the Patents Act 1977 sets out various things are not considered to be inventions for the purposes of the Act, 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.”*

13 These provisions are designated in Section 130(7) as being so framed as to have, as nearly as practicable, the same effect as Article 52 of the European Patent Convention, to which they correspond. I must therefore also have regard to the decisions of the European Boards of Appeal that have been issued under this Article in deciding whether the present invention is patentable.

14 The approach to be adopted when deciding whether an invention relates to excluded matter has been considered by the UK courts on numerous occasions. In its judgment in *Aerotel*<sup>1</sup> the Court of Appeal reviewed the case law on the interpretation of section 1(2) and approved a four-step test for the assessment of excluded matter, as follows:

*Step one: properly construe the claim*

*Step two: identify the actual contribution (although at the application stage this might have to be the alleged contribution)*

*Step three: ask whether it falls solely within the excluded matter*

*Step four: check whether the actual or alleged contribution is actually technical in nature.*

15 In its subsequent judgment in *Symbian*<sup>2</sup>, the Court made clear that the *Aerotel* test is not intended to provide a departure from the requirement set out in the previous case law that the invention must provide a “technical contribution” if it is not to fall within excluded matter.

16 At the hearing Dr Davies attempted to persuade me that I should not apply the *Aerotel* test to the current application and that I should instead go straight to the “technical contribution” test. In support of this, Dr Davies referred me to the judgment in *AT&T Knowledge Ventures LP*<sup>3</sup> (*AT&T*), where Lewison J stated at paragraph 12 that he interpreted the judgment in *Symbian* to mean that the use of the *Aerotel* test was not inevitable.

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<sup>1</sup> *Aerotel Ltd. v Telco Holdings Ltd & Ors* Rev 1 [2006] EWCA Civ 1371 (27 October 2006)

<sup>2</sup> *Symbian Ltd v Comptroller General of Patents* [2008] EWCA Civ 1066 (08 October 2008)

<sup>3</sup> *AT&T Knowledge Ventures LP, Re* [2009] EWHC 343 (Pat)

17 Having said that however, and recognising that in his judgment in *Symbian* Lord Neuberger had concluded that the court should follow the *Aerotel* approach, Lewison J went on to say at paragraph 13 that he saw the principles from *Symbian* to be:

*i) That the four-stage test in Aerotel remains the law, but it should not be followed blindly;*

*ii) That the question whether the contribution is "technical" must be asked and answered in the course of the inquiry, but that it does not matter whether it is asked at stage three or stage four."*

18 From that I take it that I should apply the *Aerotel* test but that in doing that I must ask the question "is the contribution technical?".

### **The scope of the exclusions**

19 Dr Davies also sought to caution me against interpreting the exclusions too broadly. In particular he referred me to paragraphs 17 and 18 of the "Minutes Of The Munich Diplomatic Conference For The Setting Up Of A European System For The Grant Of Patents"<sup>4</sup>. These minutes are commonly referred to as the *Travaux Preparatoires*. The highlighted paragraphs demonstrate that during the negotiations that ultimately led to the establishment of the European Patent Convention, FICPI (the International Federation of Intellectual Property Attorneys) raised a concern that the computer program exclusion could be interpreted broadly which could lead to "problems in large sections of industry operating in the field of data processing in particular or of communications technology in general". Dr Davies felt the reference to "communications technology" made this particularly relevant to the present case and he suggested that it pointed to there being no intention to exclude structures or algorithms for use in the field of data processing or communication technology.

20 Whilst they highlight a concern of industry at the time, when read as a whole the *Travaux Preparatoires* indicate that no conclusion was reached as to the scope of the exclusion at that conference other than an acknowledgement that the term "programs for computers" should be interpreted "unequivocally" by the European Patent Office.

21 Furthermore, the weight to be given to the *Travaux Preparatoires* was explicitly considered by the Court of Appeal in *Aerotel* where Jacob LJ said at paragraph 11 of his judgment:

*"11. So, one asks, what help can be had from the travaux preparatoires to the EPC? The answer is not a lot. .... What does emerge is that the various categories are the result of various compromises and distinct discussions about each of them. So one can at least find confirmation that no overarching principle was intended. What was done was to formulate the language of each of the categories independently of one another, add the "as such" rider to all of them and leave it to the EPO and European patent judges to work out the detail."*

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<sup>4</sup> "Minutes Of The Munich Diplomatic Conference For The Setting Up Of A European System For The Grant Of Patents", Munich, 10 September to 5 October 1973.

22 That makes it abundantly clear to me that the *Travaux Preparatoires* do not provide any foundation for Dr Davies' assertion that the computer program exclusion should be interpreted narrowly. Furthermore at paragraph 12 Jacob LJ went on to draw a distinction between the exceptions to patentability under Article 53 and the exclusions of Article 52:

*"12.....But Article 53 is not the same as Article 52(2). It is expressly entitled "Exceptions to patentability". The exceptions are clearly expressed as such and the exception principle of construction can and does apply to them. But Art.52(2), by contrast, is not expressed as an exception to patentability – it sets out positive categories of things which are not to be regarded as inventions"*

Thus he concluded that whilst Article 53 should be interpreted narrowly (according to the general principle that exceptions are interpreted restrictively), the same did not apply to the Article 52(2) exclusions.

23 I take this to demonstrate that in applying the *Aerotel* test, there is no overarching assumption that the exclusions should be afforded either a narrow or broad interpretation.

### **The four-step Aerotel test**

#### **Step one: construe the claim**

24 This presents no real difficulty for the present application and was not an issue between the applicant and the examiner. The claims defines a method of sending an email in a communication system, the method comprising creating an email including an image within a signature block of the email, converting the image to html format by converting pixels of the image to html dots; and transmitting the email including the converted image in html format.

#### **Step 2 : identify the contribution**

25 At paragraph 43 of its judgment in *Aerotel* the Court of Appeal provided some guidance on how this step should be approached when it confirmed that identifying the contribution

*"is an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are. What has the inventor really added to human knowledge perhaps best sums up the exercise. The formulation involves looking at substance not form – which is surely what the legislator intended."*

26 Much of the discussion at the hearing centred on correctly identifying the contribution made by the invention. For his part Dr Davies felt that the examiner had taken too narrow a view of the contribution. First he felt that the examiner had adopted *Falconer* reasoning by discounting any conventional aspects of the claimed invention when making his assessment of the contribution, an approach found to be incorrect by the Court of Appeal in *Merril Lynch*. I certainly agree that in identifying the contribution it is necessary to look at the claimed invention as a whole, not just what is novel and inventive.

- 27 In line with the guidance from *Aerotel*, Dr Davies highlighted a number of advantages that he said the invention provided and which in his view also formed part of the contribution. First he referred me to the advantages identified in the application.
- 28 As already mentioned above, the motivation behind the invention is to ensure that emails including an image can be received by the recipient such that they maintain the appearance intended by the sender. This needs to be achieved without presenting a security risk that would be involved by say disabling anti-virus software.
- 29 This is achieved by encoding an image in an email in such a way that it will not be recognised as an image by the receiver's spam or anti-virus filters. More specifically it is achieved by re-encoding the image which is in the signature block of the email to html format (by converting the image pixels to html dots). The email will then be displayed by the recipient's email client in the same way that a web browser would display a web page, with the image in html format being presented as an image.
- 30 That advantage is clearly set out in the specification. Dr Davies also sought to highlight a number of other advantages that he said the invention would provide but which were not specifically mentioned in the application. First he said the specific image processing which occurs prevents the image being used to harbour malicious code, or at least makes it much more difficult since images are more vulnerable to malicious code by virtue of their being structurally different to text that forms the body of the email.
- 31 Another advantage which he said the invention provided was that the invention maintains compatibility with a wide range of recipient devices – something that the sender of course has no control over. He also highlighted that the invention ensures that large quantities of storage were not required for the images that had been stripped from emails as attachments as in the prior art systems. He acknowledged that the reformatting required to do this did however result in an increase in bandwidth necessary to transmit the email (as html is more data intensive than image formats like JPEG) and would likely add to data storage requirements in the recipient's system.
- 32 Taking all these points into account, in my view the contribution that the inventor has made to the stock of human knowledge is a method of sending emails where an image contained in a signature block is encoded as html by converting image pixels to html dots so as to ensure that the email is reliably received and appears to the recipient as the sender intended without compromising security.

**Steps three and four: ask whether it falls solely within the excluded matter and check whether the actual or alleged contribution is actually technical in nature**

- 33 Having identified the contribution what I must now decide is whether that contribution falls solely within excluded matter. Dr Davies pursued two lines of argument in seeking to convince me that it does not:
- i) that the contribution cannot be said to be a program for a computer at all and

- ii) even if I find that it is a program for a computer, then it is a program that makes a technical contribution and thus is not excluded as a computer program *as such*.

- 34 The first thing to say here is that the quote from *Aerotel* that I referred to in paragraph 25 above is a restatement of a principle that the Courts have consistently applied when considering excluded matter – that it is the substance of the invention that is important, not the form of claims. Thus the fact that claim 1 is drafted as a “method of sending an email” does not mean that the exclusions (and in particular the computer program exclusion) are avoided.
- 35 Dr Davies put it to me that it was wrong to view the contribution as a program for a computer at all. He said that it is abundantly clear from the specification that the invention can be implemented in hardware as well as software. He argued that a hardware implementation was a viable alternative to software even if the specification contained no detail of the hardware involved in such an implementation. He argued that the contribution made by the invention was the same irrespective of whether it was implemented in hardware or software and thus the contribution was broader than a computer program. In short he was saying that the contribution is not a computer program at all and thus the invention could not be caught by the computer program exclusion
- 36 Instead, Dr Davies suggested that the contribution made by the invention is a technical process implemented in hardware or software for reformatting an image contained in an email for the technical motivation referred to above. Such a technical process, he said, should be patentable irrespective of how it is implemented. With the *Travaux Préparatoires* clearly in mind, Dr Davies went on to say that the contribution that the present invention makes relates to an algorithm and it is the algorithm that provides the technical contribution and so the invention cannot be excluded as a computer program.
- 37 I do not agree that the contribution is not a computer program. First it is trite law that a claim is bad if it encompasses within its scope anything that is unpatentable. In the same way that a claim that encompasses novel and anticipated embodiments does not comply with the Act, nor does a claim that encompasses excluded and non-excluded implementations. Thus just because it could be implemented in a non-excluded way does not mean the claim is allowable. The key point is to consider whether the contribution made is a technical contribution – a point I will come back to.
- 38 Second, the exclusion in the Act is to a “program for a computer”, not to software and the courts have interpreted this as extending to programs implemented as hardware. Most notably this issue was addressed by the Court of Appeal in *Gale’s Application*<sup>5</sup> where the preamble to the claimed invention read:

“Electronic circuitry in the form known as ‘ROM’, to provide controlling means whereby four binary manipulative entities, of the type known as ‘registers’ shall derive the square root of an arbitrary number...”

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<sup>5</sup> Re: Gale's Application [1991] RPC 305

- 39 Even though Mr Gale's invention was defined in terms of electronic circuitry amounting to a hardwired calculator, the Court still found that the invention was excluded as a program for a computer. In doing so the Court made it abundantly clear that deciding whether an invention is excluded is a matter of substance rather than form of the claim, a principle which has been maintained consistently throughout the case law.
- 40 Both these factors lead me to conclude that the computer program exclusion is not avoided just because the invention can be implemented in hardware or software. Given the importance of substance over form I also do not think it matters that claim 1 is drafted in terms of a method of sending email rather than to a program per se – in my opinion the same contribution is made by the invention claimed in claim 1 as in claim 15 (which is directed to the program for implementing that method) and in claim 16 (the claim to the apparatus for implementing the method). In my opinion that contribution is in substance a program for a computer.
- 41 I confess that I do not see how Dr Davies' argument that the contribution is an algorithm and thus not a program helps him in any way. It strikes me that just because the operator used to manipulate data can be described as an "algorithm" does not mean it is not a computer program. And even if at some academic level his argument was correct then it seems to me that an algorithm is a mathematical process which would bring the mathematical method exclusion into play, at least in so far as the invention could be viewed as a combination of excluded items.
- 42 Finding that in substance the contribution is a program for a computer is, of course, not the end of the matter; a computer program that makes a technical contribution is not excluded.
- 43 In seeking to convince me that the invention did indeed make a technical contribution, Dr Davies sought to rely heavily on the EPO Board of Appeal decision in *Vicom*<sup>6</sup>. At the hearing Dr Davies attempted to persuade me that the present application is on all fours with *Vicom* since both are concerned with image processing. Dr Davies particularly highlighted paragraph 5 of the "Reasons for the decision" which states:

*"5. There can be little doubt that any processing operation on an electric signal can be described in mathematical terms. The characteristic of a filter, for example, can be expressed in terms of a mathematical formula. A basic difference between a mathematical method and a technical process can be seen, however, in the fact that a mathematical method or a mathematical algorithm is carried out on numbers (whatever these numbers may represent) and provides a result also in numerical form, the mathematical method or algorithm being only an abstract concept prescribing how to operate on the numbers. No direct technical result is produced by the method as such. In contrast thereto, if a mathematical method is used in a technical process, that process is carried out on a physical entity (which may be a material object but equally an image stored as an electric signal) by some technical means implementing the method and provides as its result a certain change in that*

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<sup>6</sup> *Vicom* (1986) T208/84, [1987] OJ 14



*entity. The technical means might include a computer comprising suitable hardware or an appropriately programmed general purpose computer."*

44 In Dr Davies' view, this passage demonstrated that the Board of Appeal considered that image processing equated to the manipulation of a physical entity and was therefore unquestionably subject to patent protection. Furthermore Dr Davies added that the UK courts have consistently approved of the decision in *Vicom* which is after all the origin of the "technical contribution" approach. Consequently Dr Davies felt that since it also concerned image processing, the present invention made a clear technical contribution and was not excluded. Indeed when I pushed him on the point he suggested that any invention involving the processing of images was patentable following *Vicom*.

45 I do not agree that the issue is that straight forward. First, in my view it is the "technical contribution" approach adopted in *Vicom* which is endorsed by the UK courts rather than the actual result. For example at paragraph 81 of his judgment in *Aerotel* Jacob LJ stated:

*"The "technical contribution" in Vicom (beyond the mere fact that the program ran on a computer) is perhaps a little elusive. Essentially however it was that the patent was for a new method of and apparatus for manipulating images."*

46 Looking a little more closely at *Vicom*, the actual invention there provided a faster way of processing an image whereby fewer computations were required than was necessary for conventional convolution techniques whilst still providing a good approximation of the results achieved by those conventional techniques. From the judgment of Fox LJ in *Merrill Lynch*<sup>7</sup>, it is clear that it was the increase in processing speed that was felt to provide the technical contribution in *Vicom* rather than the fact that the invention involved the processing of an image. In particular at page 569 Fox LJ said:

*"The position seems to me to be this. Genentech decides that the reasoning of Falconer J. is wrong. On the other hand, it seems to me to be clear, for the reasons indicated by Dillon LJ, that it cannot be permissible to patent an item excluded by s.1(2) under the guise of an article which contains that item -- that is to say, in the case of a computer program, the patenting of a conventional computer containing that program. Something further is necessary. The nature of that addition is, I think, to be found in the Vicom case where it is stated: "Decisive is what technical contribution the invention makes to the known art". There must, I think, be some technical advance on the prior art in the form of a new result (e.g., a substantial increase in processing speed as in Vicom)."*

47 As I see it, the contribution in *Vicom* is an improved image processing method and the Board of Appeal clearly felt that it provided the necessary technical contribution. In the present case however, the contribution is not the image processing method, rather it is a method of sending an email that includes an image that has been converted from an image data format to a non-image data format. Whilst the motivation for making that conversion also forms a part of the contribution, it is a very different contribution than that in *Vicom*. I do not consider that *Vicom* can be taken

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<sup>7</sup> *Merrill Lynch* [1989] RPC 561 (CA)

to mean that any invention involving the processing of an image necessarily makes a technical contribution and is patentable. That the Board of Appeal decided that the *Vicom* invention made a technical contribution does not mean the present invention does.

48 There is of course a great deal of case law relating to what does and does not constitute a technical contribution. This was conveniently summarised by Lewison J in his judgement in *AT&T/CVON*<sup>8</sup> where he identified five “signposts” to help decide whether an invention is excluded. Those signposts are as follows:

- 1) *whether the claimed technical effect has a technical effect on a process which is carried on outside the computer,*
- 2) *whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run;*
- 3) *whether the claimed technical effect results in the computer being made to operate in a new way;*
- 4) *whether there is an increase in the speed or reliability of the computer;*
- 5) *whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.*

49 Dr Davies was of the opinion that at least four of the tests were passed by the present invention. He felt the first was met because the sending of email was intrinsically an effect outside the computer. He felt the third was met because the invention resulted in a fundamental change to the way communication devices were made to work. He said that the fourth signpost was met since the invention resulted in an increase in reliability by virtue of it ensuring that the recipient received the email in the form the sender intended it to be seen and with a reduced likelihood that malware could be hidden in it. Furthermore he said he felt the problems of reliable transmission, faithful reproduction and reduced vulnerability to malware were solved rather than circumvented by the invention. This he suggested was in contrast to the prior art solutions (such as including the image as an attachment) which were circumventions rather than solutions to the problem, pointing to the fifth signpost being met too.

50 For my part, I am not convinced by any of these arguments. In my view the first signpost is concerned with the sort of computer implemented invention where the external process controlled by the program is a technical process such as a numerically controlled machining operation or the operation of an internal combustion engine. The sending of email is not that sort of external process albeit that it involves a network rather than a single computer.

51 As regards the third signpost, I do not consider that the computer is made to operate in a new way save in the way that any computer running according to a new program is operating differently. According to the invention, the sender’s computer is programmed to prepare emails by re-encoding an image file as html before the email is sent. In my view that is a change in the features of the email application run on the computer rather than a change in the way the computer operates.

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<sup>8</sup> *AT&T Knowledge Ventures LP vs The Comptroller General of Patents and CVON Innovations Limited vs The Comptroller General of Patents* [2009] EWHC 343 (Pat)

- 52 As for signpost 4, the fact that the invention provides a way to ensure that an email appears to the recipient as the sender intends is not the sort of increase in reliability that the case law teaches makes a computer implemented invention patentable. The end result of the invention is not a more reliable computer or device. The contribution is an improved application for sending emails which runs on a device. That it might be less easy to hide malicious code in the email encoded in this particular way again points to the email application being better than other email applications but does not in my view alter the fact that it remains a computer program and not one which makes a technical contribution.
- 53 Similarly, applying the final signpost does not in my view point to the invention making a technical contribution. The problem that the invention seeks to solve is how to transmit an email such that the integrity of its appearance is maintained when it contains an image. The solution – converting the image data from an image format to html - is in my view circumventing the problem rather than solving it. Put another way, the problem associated with sending this particular email content in the prior art is avoided by sending something that is different, albeit that the recipient does not realise it.
- 54 For completeness I also consider that applying the second signpost does not point to the invention making a technical contribution; the invention is very much at the application rather than the architecture level.
- 55 In light of the above it is my considered view that the contribution made by the invention is not a technical contribution and falls within excluded matter (as a program for a computer).
- 56 Having addressed the technical contribution issue at step 3, it is not strictly necessary for me to address step 4 separately. Suffice it to say that the contribution is not in my view technical in nature except in so far as it is implemented on computer (or communication devices) and that is not of itself sufficient to render it patentable.

## **Conclusion**

- 57 In my view the contribution made by the present invention is a program for a computer and moreover one that does not make a technical contribution. I therefore find the invention to be excluded as a program for a computer as such.

## **Decision**

58 I have found that the invention defined in claim 1 is excluded from patentability since it relates to a computer program as such. Furthermore, I can see no possible amendment to the claims which would allow a patent to be granted. I therefore refuse the application under section 18(3) as failing to comply with section 1(2).

## **Appeal**

59 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

**A BARTLETT**

Deputy Director acting for the Comptroller