



**PATENTS ACT 1977**

APPLICANT    Samsung Electronics Co. Ltd.

ISSUE    Whether patent application  
GB0802676.7 complies with Section 1(2)

HEARING OFFICER    Phil Thorpe

---

**DECISION**

**Introduction**

1. This decision concerns whether the invention set out in patent application GB0802676.7 relates to excluded matter. The examiner has maintained throughout the examination of this application that the claimed invention is excluded from patentability under section 1(2) of the Patents Act 1977 as a program for a computer and as the presentation of information. The applicant has not been able to overcome the objections, despite amendments to the application.
2. The matter therefore came before me at a hearing on 11 July 2012 at which Mr Howard Sands appeared for the applicant.

**The Patent**

3. GB0802676.7 was filed on 13 February 2008 with a claim to priority of 20 August 2007. The application was subsequently published as GB 2452107 A on 25 February 2009.
4. The application relates to a method and apparatus for showing images embedded in an electronic map.
5. According to the description it is widely known to associate image files with electronic maps such as Google Earth based on positional data captured by the image capturing device. Such images are then retrievable so that a user can view images of a target point on a map. However current methods of using these image files are such that only those images registered to the particular target point of interest are retrieved. Images which are registered to

nearby locations and which may include an image of the target point are not shown.

6. Mr Sands outlined the invention in layman's terms with reference to Figure 11 (shown below). He explained that the method of the invention begins with presenting an electronic map. A target point T on the map is selected by a user. The invention sets a range about the target point within which images stored in a database are searched. The method identifies which images are close to that point and these images 310, 320, 330, 340, 350 are assigned an order. Each image file in the set includes additional information regarding position and the parameters of the camera which can be used to determine in which direction the camera was looking and the view angle of the camera. The method goes on to use these parameters to work out and select which of the images could include the target point. These form a new data set specific to that target point. The final step is displaying those selected images to the user.



7. The claims on which this decision is based are those filed on 4 July 2012 (corresponding to those filed on 6 February 2012). Claims 1 and 11 relate respectively to a method and apparatus and read as follows:

#### Claim 1

A method of reproducing on an electronic map an image from an image file, wherein the electronic map includes the image file so that the position information of the image file matches position on the electronic map, the method comprising the steps:

- a) receiving from a user, a selection of a target point on the electronic

map on a display of an image display device comprising a processor and obtaining position information of the target point:

- b) setting a search range within the displayed electronic map;
- c) searching for image files including an image of the target point within the set search range using the processor by:

- detecting image files having position information included within the set search range;

- assigning an order to the detected image files: and

- analyzing azimuth information and view angle information of the image files in the assigned order to determine whether the image files include an image of the target point; and

- d) displaying images from the searched image files on the electronic map via the display of the image display device.

#### Claim 11

An apparatus comprising:

a display device;

an input device to receive a selection of a target point to be observed on the electronic map; and

a processor programmed to at least;

- search for an image file including an image of the target point in a search range around the target point; and

- display an image of the image file on the electronic map on the display device

wherein the processor is further programmed to:

- identify image files having position information included within the set search range;

- assign an order to the image files: and

- analyze azimuth information and view angle information of each of the image files in the assigned order to determine which of the image files include an image of the target point.

## The Law

8. The examiner has raised an objection under section 1(2) of the Patents Act 1977 that the invention is not patentable because it relates inter-alia to one or more categories of excluded matter. The relevant provisions of this section of the Act are shown in bold below:

**1(2) It is hereby declared that the following (amongst other things) are not inventions for the purpose of the Act, that is to say, anything which consists of –**

(a) a discovery, scientific theory or mathematical method;

(b) .....

**(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 provisions shall prevent anything from being treated as an invention for the purposes of the Act only to the extent that a patent or application for a patent relates to that thing as such.*

9. As explained in the notice published by the UK Intellectual Property Office on 8 December 2008<sup>1</sup>, the starting point for determining whether an invention falls within the exclusions of section 1(2) is the judgment of the Court of Appeal in *Aerotel/Macrossan*<sup>2</sup>.

10. The interpretation of section 1(2) has been considered by the Court of Appeal in *Symbian Ltd's Application*<sup>3</sup>. *Symbian* arose under the computer program exclusion, but as with its previous decision in *Aerotel*, the Court gave general guidance on section 1(2). Although the Court approached the question of excluded matter primarily on the basis of whether there was a technical contribution, it nevertheless (at paragraph 59) considered its conclusion in the light of the *Aerotel* approach. The Court was quite clear (see paragraphs 8-15) that the structured four-step approach to the question in *Aerotel* was never intended to be a new departure in domestic law; that it remained bound by its previous decisions, particularly *Merrill Lynch*<sup>4</sup> which rested on whether the contribution was technical; and that any differences in the two approaches should affect neither the applicable principles nor the outcome in any particular case.

11. Subject to the clarification provided by *Symbian*, it is therefore still appropriate for me to proceed on the basis of the four-step approach explained at paragraphs 40-48 of *Aerotel* namely:

1) Properly construe the claim.

---

<sup>1</sup> <http://www.ipo.gov.uk/pro-types/pro-patent/p-law/p-pn/p-pn-computer.htm>

<sup>2</sup> *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371; [2007]

<sup>3</sup> *Symbian Ltd v Comptroller-General of Patents*, [2009] RPC 1

<sup>4</sup> *Merrill Lynch's Application* [1989] RPC 561

2) Identify the actual contribution.

3) Ask whether it falls solely within the excluded matter, which (see paragraph 45) is merely an expression of the “as such” qualification of section 1(2).

4) If the third step has not covered it, check whether the actual or alleged contribution is actually technical.

12. Mr Sands accepts that this is indeed the approach to follow though he emphasises that whilst it provided a framework to assist in determining whether an invention related to excluded matter it was always necessary to consider the particular facts of each case on its merits.

### **Step 1 - Properly construe the claim**

13. The construction of the claims causes no real problems. The only aspect of the claimed method that is not self-explanatory is the step of assigning an order to the detected image files. As recognised by Mr Sands the description is fairly silent on this though in the particular embodiment the ordering is done on the basis of positional information of the detected image files. The purpose of the ordering is also not explicitly set out though it does at least seem to provide a sequential order in which all the detected image files are analysed.

14. I would mention that the claims in referring broadly to an electronic map are not limited to maps and images of real places. Their scope would also extend to cover for example imaginary maps and images. Mr Sands made a further submission on this after the hearing.

### **Step 2 - Identify the actual contribution**

15. Again I do not think there is any real dispute about the contribution provided by the invention. As the examiner demonstrated during the examination of the application it is known to select a target point on an electronic map and retrieve and display all images within a set range of that target point. Hence the contribution provided by this invention is in my opinion the method of analysing such selected image files to determine whether the file is likely to include an image of the selected target point and the subsequent displaying of only those images that show an image of the target point. The method of analysis to produce this selective display of image files is based on azimuth information and view angle information of the respective image files.

### **Steps 3 & 4 - Does the contribution fall solely within excluded matter and is it actually technical in nature**

16. I will consider steps 3 and 4 in effect together since if the contribution made by the invention is technical then it does not fall solely within excluded matter.

*Computer Program*

17. It is not disputed that the invention is implemented on a computer however that in itself does not mean that it is excluded as a computer program. Mr Sands makes a number of points as to why the invention in this case is not so excluded.
18. He argues firstly that the requirement for the user to input the target information means there is at least one aspect essential to the contribution which takes place outside of a program for a computer. I can deal with this briefly. The step of the user identifying the target is not in my view part of the contribution provided by the invention. This is because there is nothing new or inventive in the step. That it is set out in the claims does not alter this. Hence to the extent that it adds nothing to the contribution made by the invention, it cannot be decisive in determining whether that contribution falls solely within excluded matter nor whether it is technical.
19. Mr Sands also argues that the invention requires the output of information via a device external to the computer and that this too demonstrates that it is not a computer program as such. Again I can see nothing new or inventive in this step and hence for the reasons just given it cannot save what would otherwise be an excluded invention. I would also add that many programs require some form of input or produce an output display of some form. If either of these steps was sufficient on its own to take an invention outside of the computer program exclusion then in my view it would render the scope of the exclusion far narrowly than was intended.
20. Mr Sand's next point centres on the nature of the data that the invention works on. He argues that case law has established that one of the factors that can put a computer implemented invention on the allowable side of being patentable is the sort of data that is at the heart of the invention. He suggests for example that those inventions which relate to what he terms more "abstract" data, for example stock market information or other similar financial information are not patentable at least in the UK. He contrasts that with for example a computer implemented invention that result in improvements to the performance of a car engine which he sees as being clearly allowable. This type of invention relates to operations performed on what he considers is "real world" data. He goes on to argue that there is a considerable grey area between these two extremes and that this invention falls in that area but on the right side of being allowable.
21. More specifically he argues that in this case what is worked on and what is outputted is also "real world" or "technical" data. It is not abstract data but rather it is real data relating to a real location in the real world and real parameters of the camera taking the image (location, direction and field of view). He argues also that the data that the invention presents ultimately to the user is linked in a technical sense in that each of the images selected is likely to include a view of the target.

22. He seeks support from *Vicom*<sup>5</sup>. This is a decision of Technical Boards of Appeal of the European Patent Office. Although this decision is not binding on me, both the Patents Court and the Court of Appeal have recognised that the approach taken in *Vicom* (the so-called technical effect approach with rider) is consistent with the approach that they, and it follows the comptroller, is bound to follow.

23. The invention in *Vicom* is a method of digitally processing images and an apparatus for carrying out the method. The invention as claimed involved scanning the elements of a data array to produce a convolved array and then repeating the scanning so that the last convolved data array generated had the enhanced qualities required.

24. In deciding that the invention was not excluded as a computer program as such the Board noted in paragraph 12:

The Board is of the opinion that a claim directed to a technical process which process is carried out under the control of a program (be this implemented in hardware or in software), cannot be regarded as relating to a computer program as *such* within the meaning of Article 52(3) EPC, as it is the application of the program for determining the sequence of steps in the process for which in effect protection is sought. Consequently, such a claim is allowable under Article 52(2)(c) and (3) EPC.

25. Guidance on what the Board considered to be the technical process in *Vicom* is set out in the decision's discussion of whether the invention was excluded as a mathematical method. In particular the decision notes in paragraph 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 entity. The technical means might include a computer comprising suitable hardware or an appropriately programmed general purpose computer.

26. In *Fujitsu*<sup>6</sup> however Aldous L.J noted that:

The reasoning in *Vicom* as to what was the technical contribution is not easy to ascertain. However, I do not read the decision as concluding that all claims to processing real images are patentable and I can see no reason why, if they are, the same reasoning should not apply to all useful images. As I read the

---

<sup>5</sup> *Vicom System Inc's Application* [1987] O.J. EPO 14

<sup>6</sup> *Fujitsu Limited's Application* [1997] RPC 608

decision, the Board saw a technical contribution, namely the generation of the enhanced picture.

As the Principal Examiner pointed out:

“..., the numbers which are mathematically processed in Vicom do not merely determine the intellectual content of the images which are displayed, but are also the technical means which cause the display to operate to a technical level. Thus in Vicom manipulating numbers in the manner described affects the technical quality of the image. So in Vicom, the invention concerned the technical representation, or technical control of what is displayed and not the information content of what is displayed.”

In my view Vicom does not support the submission that claims to processing of real images are allowable. The technical contribution was not the fact that an image was being produced. It was the way the enhanced image was produced.

27. In advance of the hearing I also referred Mr Sands to *Gemstar-TV Guide International v Virgin Media*<sup>7</sup> as there appeared some similarities with the invention here. This decision covered the patentability of a number of patents one of which was referred to as the “Favorites” patent. The invention disclosed in that patent dealt with perceived problems arising out of the very large number of channels that would appear on a television Electronic Program Guide (EPG) which sought to list all programmes available to a subscriber. The invention enabled the user to filter out channels which he or she would not wish to be informed about, leaving him/her with “favourites”. This was done by scrolling down a displayed list and pressing a button to “mark” those which the viewer wished to have listed for the future. By selecting (electronically, on a controller) to view just the favourites, the non-favourites were filtered out of the view, and the list was more manageable.

28. In his decision in *Gemstar* Mann J reviewed *Vicom*. He noted in paragraph 44:

There are suggestions in the authorities that visual indications on screens can be the fruits of patentable inventions. VICOM SYSTEM INC/Computer-related invention (T/208/04) was a case involving the technical processing of images which could be manipulated. This was done by a computer which produced the images, presumably on a screen (but that does not matter). The Board of Appeal held that this was not excluded from patentability as a computer program as such. Lewison J. analysed the decision in AT&T at paras. 17-20. The process involved was the manipulation of images, and the Board regarded that as a technical process. It is not clear what criteria were applied in reaching that conclusion, but the conclusion is clear enough. The fact that this technical process was achieved by a computer program did not deprive it of patentability – see para.20. However, that case seems to me to differ from the present. The production of the manipulatable images in that case was a technical effect beyond the mere placing of the images on the screen. One can see how that might be said to have a technical effect for the purposes of

---

<sup>7</sup> *Gemstar-TV Guide International v Virgin Media* [2009] EWHC 3068



patent law. Contrast the screen displays in the patent in suit. They do not seem to me to have the same technical effect, qualitatively speaking.

29. He goes on to conclude, starting in paragraph 146, in respect whether the invention in the Favorites patent relates to a computer program that:

This is a computer program for limiting an EPG's display of programmes on the screen. It is said that this manner of limitation is novel. I shall assume for the moment that it is, and that that identifies the invention for the purposes of the Aerotel test.

This seems to me plainly to be a computer program. It is a program which takes data, makes a display, permits visual and internal tagging, and then displays a subset of that data. So there is little doubt that it is a program. What is the contribution said to be? It was described by Mr Birss as being the improved use of the screen 'real estate' as per the user's interactively applied specification. So it has worked on the data and filtered it. Is that a technical contribution? In my view it is not. It does not make the computer a better computer. It does nothing to make the computer do anything other than to sort some data, and that is not sufficient. Nor does it have a relevant effect on the world external to the computer. It alters a screen display, but again that cannot be a relevant technical effect, because otherwise every computer program which reported its output on a screen would escape the exclusion. Since a very high proportion of programmes can do that, it cannot have been the intention of the draftsman that that should take a programme outside the exclusion, so that is not enough. The effect on the user can hardly be described as a technical effect.

30. Mr Sands sought to distinguish the case here from the Favorites patent by arguing that the selection step in that patent is done by the user whereas here it is done automatically based on stored "technical" information and this is more akin to the processing in *Vicom*.

31. I accept that there is a difference between the invention here and that disclosed in the Favorites patent. However any difference does not in my view provide the necessary technical contribution. There is filtering of the data. And that filtering is based on information such as the camera's viewing angle that could be described as technical. However the processing of the data here, in other words the selection of certain images based on this technical data, is not in itself a technical process. It does not improve the technical quality of the images as in *Vicom*. It does not have a relevant effect on the world external to the computer, as the sort of engine management program referred to Mr Sands would have. All that happens here is that some images are excluded based on selection criteria that uses the underlying technical data. This is in my view just data processing and as such I believe that the invention falls squarely within the computer program exclusion.

32. For completeness I would mention that the signposts referred to in *AT&T*<sup>8</sup> were briefly discussed at the hearing. Mr Sands rightly pointed out that these

---

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

are not applicable to all cases and he did not seek to claim that any of these signposts helped his case.

33. Mr Sands also refers me to the relatively recent decision in *Halliburton*<sup>9</sup> and also another EPO decision, *Konami*<sup>10</sup>. This is merely as I understood it to demonstrate the sort of inventions in the area of computer programs that have been considered allowable and in respect of *Konami* to show a possible divergence in practice in relation to computer implemented inventions between this Office and the EPO. I do not believe that either of these cases really help me here.

### **Presentation of information**

34. The examiner has also maintained that the invention here is excluded as the presentation of information.
35. It is clear that the invention in issue starts by presenting the user with information, in the form of a map. It also finishes by presenting different information to the user in the form of a selected set of images. The content of the information displayed in both these steps is clearly important. In between these steps however is the step of the user selecting the target point and the step of the program analysing the information contained in the map and filtering that information. It is the presence of these two steps that Mr Sands argues takes the invention outside of it being just the presentation of information.
36. The scope of this particular exclusion was also considered in *Gemstar*. At paragraph 148 Mann J notes:

... the entirety of what is propounded by Gemstar as the technical contribution is the presentation of information. It undoubtedly does present information – the whole purpose is to limit information that would otherwise be presented, and then present that limited set. I have already rejected the submission that the statutory exclusion is confined to the actual content. It is wider than that. This seems to me to be a clear example of the presentation of information in any meaningful sense of those words. The patent describes a computer taking some information, getting some input from the user, and then giving the user the information he wants. It is no more than that. There is nothing which can meaningfully be described as a technical effect. There is merely a more gratified viewer of the painted screen.

37. Hence even though the invention in *Gemstar* required some selection by the user it was still held to be merely the presentation of the information. In this case however I agree with Mr Sands that there is something more than just the presentation of information. The selection of the relevant image files adds a step that whilst not sufficient to overcome the computer program exclusion does in my opinion take it outside of being merely the presentation of information.

---

<sup>9</sup> Halliburton Energy Services Inc's Patent Applications [2011] EWHC 2508

<sup>10</sup> Konami T0928/03

## **Conclusion**

38. I conclude that the invention as claimed is excluded under section 1(2) because it relates to a computer program as such.
39. Mr Sands suggested two possible saving amendments. The first is the inclusion of the display of icons on the electronic map indicating the position, azimuth and view angle information as shown in Figure 9 and included in claims 9 and 10. This he argued was more than the presentation of information as the parameters were not present in the original image files, but rather is calculated in the running of the method. I am not persuaded that this additional step is not merely the presentation in a graphical form of information contained in the image files. In any event I do not believe that adding this step provides the necessary technical contribution to take the invention outside of the computer program exclusion.
40. Mr Sands also suggested possibly amending the claim to clearly exclude simulated maps, such as those generated in a game. The claim would instead be limited to maps of real places. Again I can see nothing in doing this that that would provide the necessary technical contribution.
41. I therefore refuse the application under Section 18(3).

## **Appeal**

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

**PTHORPE**

Deputy Director, acting for the Comptroller