



PATENTS ACT 1977

APPLICANT Motorola Solutions, Inc.

ISSUE Whether patent application GB1820158.2 complies with section 1(2) of the Patents Act 1977

HEARING OFFICER Phil Thorpe

DECISION

Introduction

- 1 Patent application GB1820158.2 was filed on 29th June 2017 as a Patent Cooperation Treaty application and was published on 20th February 2019 as GB 2565727.
- 2 There have been two rounds of correspondence between the applicant and the examiner however they have been unable to agree that the application complies with section 1(2) of the Patents Act 1977 (“the Act”). More specifically they have been unable to agree as to whether the invention relates to a method of doing business, a computer program and the presentation of information. Consequently, the matter has come to me to reach a decision based upon the papers on file.

The invention

- 3 The invention is concerned with a method of representing patrol routes taken by law enforcement patrols and indicating a crime deterrent effect provided by those law enforcement patrols in a geographic area with the effect displayed based on the type of patrol. The description explains that historically it has been difficult to visualise the effect of law enforcement patrols and to link this with crime trends.
- 4 Figure 4 illustrates an example of the output of the method. The route undertaken by the different law enforcement patrols is recorded by the system to define areas where a deterrent effect is present.

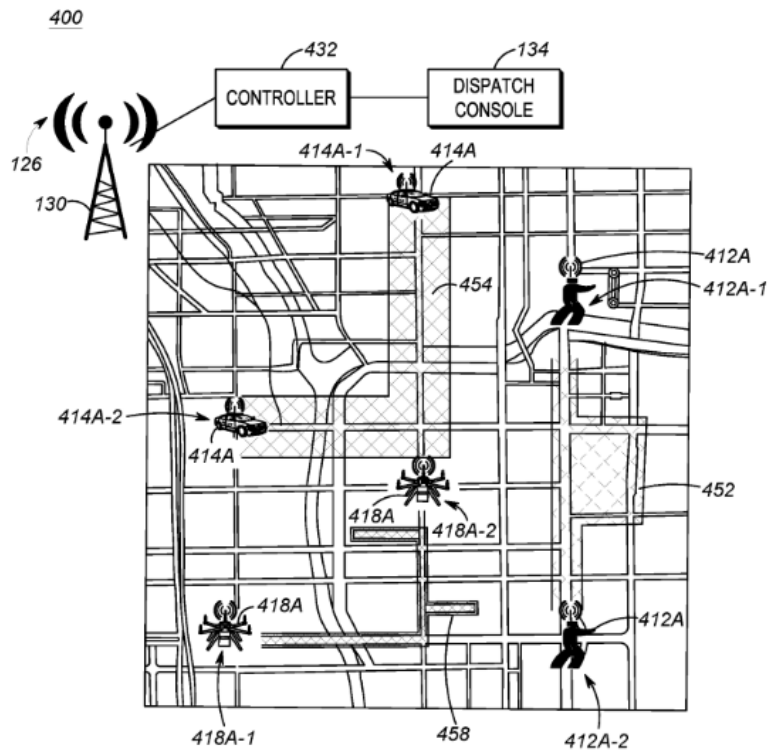


FIG. 4

5 The patrols could for example be a law officer on foot patrol 412A, in a marked or unmarked vehicle 414A or airborne in for example a helicopter. The patrol could also be performed by an unmanned vehicle such as a drone 418A. Each type of patrol will have a unique deterrent effect which can be expressed as a parameter or set of parameters. These could include for example a distance representing the extent of the deterrent. In one embodiment the deterrent “distance” of each type of patrol is shown in miles in the following table:

Type of Law Enforcement Patrol:	Deterrent Effect Parameter:
On-foot Patrolwoman or Patrolman - Marked	0.1 mi
Motor Vehicle - Marked	0.2 mi
Drone - Marked	0.05 mi * Elevation
Helicopter – Marked	1 mi

6 The invention, by receiving information of the patrol route taken by a patrol, and an indication of the type of patrol is able to produce a map showing the deterrent effect of the various patrols undertaken. In figure 4 the deterrent affect is shown by hatched lines along each patrol route.

7 The application also refers to another deterrent parameter in the form of a fade-time deterrent effect which indicates the length of time a particular patrol has in deterring

crime after the patrol has left that area. In one embodiment the fade-time parameters for different patrols is shown in the following table:

<u>Type of Law Enforcement Patrol:</u>	<u>Deterrent Effect Parameter:</u>
On-foot Patrolwoman or Patrolman - Marked	3 hours
Motor Vehicle - Marked	2 hours
Drone - Marked	1 hour
Helicopter – Marked	0.5 hours

8 The various parameters can also be combined to produce a deterrent effect factor for each type of patrol as shown in the following table:

<u>Type of Law Enforcement Patrol:</u>	<u>Deterrent Effect Factor (1-10)</u>
On-foot Patrolwoman or Patrolman - Marked	2
Drone - Marked	4
Motor Vehicle - Marked	6
Helicopter – Marked	10

9 The description also notes that historical crime trends can be used to determine a desired deterrent effect for a particular patrol route or part of that route.

10 The applicant submitted amended claims on the 11th December 2018 which have not subsequently been amended and my decision will be based upon them. There are two independent claims which read as follows:

1. A method of displaying crime deterrent effects for varying types of law enforcement patrols, the method comprising:

receiving, at a computing device, patrol route information indicating a patrol route taken by a law enforcement patrol;

determining, by the computing device, a type of the law enforcement patrol;

determining, by the computing device, as a function of the determined type of the law enforcement patrol, a deterrent effect parameter value associated with the law enforcement patrol amongst one or more other different deterrent effect parameter values associated with the types of law enforcement patrol other than the determined type of the law enforcement patrol, the deterrent effect parameter value setting forth a relative measure of an amount of crime deterrence effect provided by the law enforcement patrol relative to other types of law enforcement patrols; and

causing, by the computing device, an electronic display to display a cartographic map of a geographic area at least partially including the patrol route taken by the law enforcement patrol and, along the patrol route taken, to

display a deterrent effect indicator having at least one of a radius, width, size, and fade time that varies as a function of the determined deterrent effect parameter value.

17. A controller for causing an electronic display of crime deterrent effects for varying types of law enforcement patrols, the controller comprising;

a transceiver;

a data store; and

one or more processors configured to:

receive, via the transceiver, patrol route information indicating a patrol route taken by a law enforcement patrol;

determine a type of the law enforcement patrol;

determine, as a function of the determined type of the law enforcement patrol, a deterrent effect parameter value associated with the law enforcement patrol amongst one or more different deterrent effect parameter values associated with types of law enforcement patrol other than the determined type of the law enforcement patrol, the deterrent effect parameter value setting forth a relative measure of an amount of crime deterrence effect provided by the determined type of law enforcement patrol relative to other types of law enforcement patrols; and

cause an electronic display to display a cartographic map of a geographic area at least partially including the patrol route taken by the law enforcement patrol and, along the patrol route taken, to display a deterrent effect indicator having at least one of a radius, width, size, and fade time that varies as a function of the determined deterrent effect parameter value.

- 11 The independent claims have been considered together throughout the prosecution of the application in relation to the excluded matter issue. The apparatus of claim 17 corresponds closely to the method of claim 1 and consequently in my view stands or falls with it.

The law

- 12 The examiner has raised an objection under section 1(2) of the Patents Act 1977 that the invention is not patentable because it relates to one or more categories of excluded matter. The relevant provisions of this section of the Act are shown with added emphasis 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*

—

(c) *... a method for... 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.

- 13 As explained in the notice published by the UK Intellectual Property Office (IPO) on the 8th December 2008¹, 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*².
- 14 The interpretation of section 1(2) has been considered by the Court of Appeal in *Symbian*³. *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*⁴ 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.
- 15 Subject to the clarification provided by *Symbian*, it is therefore appropriate to proceed on the basis of the four-step approach explained at paragraphs 40–48 of *Aerotel* namely:
- (1) *Properly construe the claim.*
 - (2) *Identify the actual contribution (although at the application stage this might have to be the alleged contribution).*
 - (3) *Ask whether it falls solely within the excluded matter.*
 - (4) *If the third step has not covered it, check whether the actual or alleged contribution is actually technical.*

Applying the Aerotel test

Step 1 - Properly construe the claim

- 16 No concerns over the clarity of the claims 1 or 17 have been raised and I am content that the language and meaning of the claims is clear.

Step 2 - Identify the actual contribution

- 17 In this context there is a quote from Jacob LJ. in *Aerotel/Macrossan* to which reference is often made and part of that quote is “*What has the inventor really added*

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

² *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371; [2007] RPC 7

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

⁴ *Merrill Lynch's Appn.* [1989] RPC 561

to human knowledge perhaps best sums up the exercise.”. Jacob LJ. goes on to say that in the end:

“the test must be what contribution has actually been made, not what the inventor says he has made”.

- 18 The application was searched in the international phase however the documents identified are only loosely relevant here. The background information provided within the application provides a better picture of the state of the art. Centralised systems for geographical tracking of different patrols are known and the contribution should be considered in relation to this.
- 19 In its letter of 20th May 2020, the applicant has identified the contribution as “to provide a visual electronic display of the deterrence effects of different types of law enforcement, by displaying a map that can show the dynamic deterrence effect parameters in real time, and be responsive to changes in the geographic location of different patrol units as time passes, and the patrol units cover the allocated routes”.
- 20 It is not entirely clear whether the phrase “and the patrol units cover the allocated routes” is referring to the patrol units covering routes identified in advance or whether there is a suggestion that this relates to subsequent route planning based on the mapping. The applicant subsequently makes clear the importance of dynamic mapping of actual route information based on real time positional information on the patrol from for example GPS. The specification broadly alludes to the use of the data for more intelligent planning however claim 1 very clearly stops at the data generation and display and does not make any reference to further action.
- 21 I therefore believe that the contribution should be considered to be an improved computer implemented method of dynamically displaying the crime deterrent effects of law enforcement patrols on an electronic device by allocating different deterrent effects to different types of patrol and using this with real time patrol route data to produce a geographical map indicating the crime deterrent effect achieved.

Step 3 - Ask whether it falls solely within the excluded matter

Step 4 - Check whether the actual or alleged contribution is actually technical

- 22 I will consider steps 3 and 4 together.

A program for a computer

- 23 The examiner has referred the applicant to the five signposts that Lewison J. (as he then was) set out in *AT&T/CVON*⁵ which he considered to be helpful when considering whether a computer program makes a technical contribution. In *HTC*⁶ these signposts were reformulated slightly in light of the decision in *Gemstar*⁷ and so they are as follows:

⁵ *AT&T Knowledge Ventures/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat); [2009] FSR 19

⁶ *HTC v Apple* [2013] EWCA Civ 451

⁷ *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2009] EWHC 3068 (Pat); [2010] RPC 10

- i) *Whether the claimed technical effect has a technical effect on a process which is carried on outside the computer.*
- ii) *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.*
- iii) *Whether the claimed technical effect results in the computer being made to operate in a new way.*
- iv) *Whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer.*
- v) *Whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.*

- 24 It is important to stress that these guidelines are just that. They are not gateposts or hurdles that need to be individually or collectively overcome by the applicant. They are rather a non-exhaustive list of some of the factors that can indicate whether a contribution may be technical.
- 25 The applicant has not explicitly suggested that the invention here meets any of these signposts however it is worth I believe considering them briefly.
- 26 The output of the invention is a visual representation on an electronic device of the deterrent effect of a patrol unit as it progresses along a patrol route. The application suggests that the information could be used by a controller to allocate additional patrol units to particular areas however that is not a feature of the claimed invention. Further there does not appear to be anything to suggest that it is the invention itself that would allocate or control the dispatch of these additional units. There is therefore nothing to suggest a technical effect on a process outside of the computer.
- 27 The hardware used to process and display the map is entirely conventional. That it produces a particular and new display based on information is a consequence of the known computer running a new program. It is not because the computer is operating in a new or more efficient way or that the computer is a better computer as a result of running the program. The program also relates to a specific application and is clearly not operating at the architectural level of the computer.
- 28 The applicant has I believe based its argument that the invention is not excluded as a computer program on the fifth signpost without explicitly saying so. It argues that the technical problem being solved is how to effectively display a deterrence effect map based on real time data relating to the actual position of the patrol unit and a set of deterrent parameters. It notes that the invention differs from using a predefined planned patrol route to generate the map. It goes on to suggest that the deterrent parameter cannot be calculated until the unit starts on patrol. Further the display can respond in real time based on the progress of the unit on patrol.
- 29 The application does not suggest that any technical problem has been solved by the method of determining the position and nature of the patrol unit or indeed reporting that back. Indeed, the invention clearly relies on known techniques and equipment to

capture and report this data. Further I am not persuaded that the way that the invention combines that data with stored deterrent data and then presents it on an electronic display as a map with deterrent information solves any particular technical problem. The applicant places most emphasis on the use of real time data of the position of the patrol to update the map. Again, I fail to see how using real time data requires the solving of any technical problem since, as I have noted, entirely conventional apparatus is used to provide that. The real problem that is being addressed by the invention is how use that data to provide the graphical representation of the deterrent effect. That is not a technical problem in the sense envisaged by signpost five and further, the solution provided by the invention is not a technical solution.

- 30 I was presented with a similar argument on the relevance of real-time data from the attorney in this case, Ms. Tolfts, in a previous hearing on an application by the same applicant. The examiner here has referred to my decision⁸ on that case in their examination report of 21st May 2019. The application at issue in that earlier case again related to law enforcement. More specifically, it involved analysing various input data to predict the likely route of the fugitive and then outputting directions to direct pursuit assets to capture the fugitive. On the argument relating to the use of real time data I noted as follows:

20. Dr Tolfts also argued that the use of real time information distinguished the invention here from that in Cappellini as well as the fact that the starting and end points in Cappellini are fixed whereas here they can change. I accept that the invention here does use real time information for example information obtained from video cameras, however the sources of that information appear entirely conventional. Whilst it is not clear whether the invention in Cappellini provided for use with real time data, I do not believe that would have saved that application. The contribution here and in Cappellini relates to how the data, whether it be real time or not, is used. In both cases it is to provide routing instructions for assets. That was not considered to be a relevant technical contribution in Cappellini and I believe it is also not a relevant technical contribution in this case. I do not believe that the question of whether the start and end points are fixed or variable alters this.

- 31 Whilst the facts of this previous case differ from those here, and being mindful of not drawing too much from an earlier decision that in itself is not binding on me, I am however of a similar view that the use of real time data obtained in an entirely conventional way in the application in issue here does not in itself demonstrate that the invention involves the necessary technical contribution. Indeed, the contribution here as in that previous case and also in *Cappellini*⁹ relates to how the real time data is used. In those previous cases it was to providing routing instructions whereas here it is to produce the map displaying the deterrent effect. That is not providing a technical solution to a technical problem as envisaged by signpost five.
- 32 Hence none of the signposts suggest that the invention here involves the necessary technical contribution. Indeed taking a step back from the signposts I am satisfied that the invention as claimed does not provide a technical contribution and that it is excluded as a program for a computer.

Presentation of information

⁸ *Motorola Solutions Inc* BL O/800/18

⁹ *Bloomberg LLP and Cappellini's Applications* [2007] EWHC 476 (Pat)

33 The examiner has objected that the invention is excluded as it also relates to the presentation of information referring in support to *Gemstar*. The applicant argues that the invention here involves significantly more than merely the presentation of information highlighting the requirement for the invention to determine the location and nature of the particular patrol. It goes on to argue that the processing of this information to determine the deterrent effect and then to display also distinguishes it from the mere presentation of data.

34 *Gemstar* considered three patents relating to Electronic programming guides (EPG). According to the judgement:

4. The first patent (the "662" or "Single Channel" patent) is of the first variety. It involves the broadcast of EPG information and its essential inventive step involves the formats in which that information is displayed. It first displays programme listings in grid form, showing a number of programmes for a number of channels for various periods of time in the manner referred to above. That of itself is said to be new so far as EPGs were concerned, though it is not said to be inventive for the purposes of the patent. It is possible to move a cursor so as to highlight a particular cell (and therefore a particular programme), and if that cell is selected the display switches to single channel mode. In this mode the screen shows a list of the programmes appearing on the selected programme's channel (and no others) at and around the selected time. So the focus has been shifted from a survey of various channels to just the one. The user can scroll up and down that list, and if a particular programme is "selected" then the screen toggles back to the multi-channel mixed mode. Thus this patent switches from larger scale grid to single channel; hence the name given to it for the purposes of this action.

35 Mann J, having determined that the first patent was excluded as a computer program went on to consider whether it was also excluded because it related to the presentation of information. He noted that for it to fall outside this exclusion, what is required is "some real world technical achievement outside the information itself." On this he noted:

"58. I do not consider that the single channel element of the Single Channel patent achieves this. One starts with the provision of TV programme information in a grid. This seems plainly to be the presentation of information. The raw information is the detailing of the programmes. This has to be given over somehow (otherwise it exists only in some abstract ether). If it were spoken, that would be a presentation. If it were a written list, that would be presentation. In fact it starts (in this patent) in a grid. That, equally, is presentation of that information. Then, as a result of cursor movement and marking, the information is then presented in a different format - a list. That end result is, equally, a presentation of information. All that has happened is that information is presented in a different way (and perhaps in a different quantity). So the starting point and the end point are, in my view, plainly presentation of information. The middle factor is the movement of a cursor, the marking of the chosen programme which (unstated in the claims) causes the display to change. That seems to me to be accurately described as part of the selection mechanism. No-one suggested that it involved a new technical step - selecting material on screen and clicking on it so as to cause a change in its appearance on screen was part of the common general knowledge by 1990."

36 Hence even though the invention there required input in real time from the user in the form of selecting a different format using cursor movement, that did not take the invention outside of the presentation of information exclusion.

37 In this case, I am also not persuaded that the step of determining the location and the nature of the patrol involves what Mann J. referred to as a "new technical step". The way that this information is collected is entirely conventional. Further I am not persuaded that the processing of this information, whilst new, provides the

necessary technical step. Rather, as in Gemstar, it processes the information to produce a new display, in this case a map which can be updated, but that is essentially just presenting the information.

A method for doing business

- 38 The examiner has also suggested that the invention is excluded as a method of doing business. The applicant argues however that the invention cannot be considered to be a business method because the process undertaken has nothing to do with finance or business and is not merely an administrative action. I addressed a similar point in my earlier Motorola decision where I noted:

22. The Courts and the IPO have however not restricted the expression “doing business” to just financial or commercial activities, but have considered that it also embraces administrative, organisational and managerial activities. This is borne out in guidance provided in the IPO’s Manual of Patent Practice¹⁰ which Dr Tolfts was clearly familiar with. That guidance refers for example to decisions such as Aerotel/Macrossan where the invention related to the idea of having three document trays - “in”, “out” and “too difficult” and Wills’ Application¹¹ which related to the provision of cards to be held by a school and the parents or grandparents of a child so as to provide an immediate source of accurate, up-to date information in the event that the child goes missing. The provision of directions to enable a fugitive to be captured is in my view an administrative or organisational activity within the meaning of a method of doing business.

- 39 I see no real distinction here. The invention in the previous case as noted related to directing law enforcement assets in pursuit of a fugitive. In this instance the invention also relates to law enforcement assets albeit that the output is a map showing the deterrent effect of patrols rather than routing instructions. That the invention here does not at least in the claims go on to similar routing instructions does not change the overall nature of the invention. I therefore find that the invention here is also excluded as a method of doing business.

Conclusion

- 40 Having carefully considered the arguments presented by the applicant, I find that the contribution made by the invention falls solely within matter excluded under section 1(2) as a program for a computer, the presentation of information and a method of doing business. I therefore refuse the application under section 18(3)

Appeal

- 41 Any appeal must be lodged within 28 days after the date of this decision.

Phil Thorpe

Deputy Director, acting for the Comptroller

¹⁰ <https://www.gov.uk/guidance/manual-of-patent-practice-mopp>

¹¹ *Wills’ Application* BL O/089/99