Intellectual Property Office

BL O/494/18

09 August 2018

PATENTS ACT 1977

APPLICANT	Google LLC
ISSUE	The Patents Act 1977: whether patent application GB1621211.0 complies with section 1(2) of the Act
HEARING OFFICER	Dr L Cullen

DECISION

1 This decision concerns patent application GB1621211.0, entitled '*System and method for automatically pushing location-specific content to users',* and whether the invention set out in this application relates to matter excluded under Section 1(2)(c) of the Patents Act 1977 (hereafter the Act).

Background

2 The application was filed under the provisions of the Patent Cooperation Treaty (PCT) on 23 July 2015, claiming a priority date of 18 August 2014 from US application 14/461604, and was initially published as WO2016/028435 on 25 February 2015. On entering the GB national phase, it was subsequently re-published as GB2543438A on 19 April 2017.

3 Throughout the examination process the examiner dealing with the application has maintained that the claimed invention relates to matter excluded under the Act, and specifically to a program for a computer as such. Despite a number of rounds of amendment and argument, the applicant has not been able to overcome this objection. I note that the examiner and patent agent acting for the applicant discussed the case in detail in a telephone conversation, noted in the examiner's report of 4 April 2018 as having been held on 29 April 2018 but presumably held on 29 March 2018, and with the matter still unresolved the applicant requested a hearing.

4 The applicant subsequently changed their mind regarding an oral hearing and asked for a decision based on the papers on file. Mr Charles Jarman acted as assistant to the Hearing Officer on this case.

5 I note that the examiner has deferred consideration of all other matters, including supplementary searching, until the issues relating to patentability have been resolved.

The Invention

6 The application notes that the use of mobile devices such as smartphones, tablets and the like has become increasingly widespread with users often relying on such devices when they travel. In particular, users often utilise such devices to access information about their current location but this may be difficult, if not impossible, if a user is at a location where access to a wireless network (either a mobile telephone network or a WiFi network) is limited or non-existent.

7 In order to address this problem, the application discloses a method in which an analysis is made to identify content which two or more users have previously viewed on their devices when at a specific geographical location, e.g. a menu at a restaurant or a trail map in a park. When an indication is received that another user may be travelling to the same location, e.g. through data received from a positioning component in the user's mobile device or through an analysis of search or navigation requests made by the user, the previously-identified location-specific content can be transmitted to the user's mobile device ahead of the user arriving at that location. The location-specific information can then be temporarily stored or cached on the user's device so that it can be accessed once the user arrives at the noted location, without the need to connect to a wired or wireless network.

The Claims

8 The most recent set of claims, filed on 21 March 2018, comprise 11 claims. Claim 1 relates to a method for automatically pushing location-specific content to users. Claims 10 and 11, relating to a system and to a tangible, non-transitory computer-readable medium storing computer-executable instructions, respectively, rely on the method of claim 1. As all claims are dependent on this claim, I will focus solely on claim 1, which reads:

> *A computer-implemented method for automatically pushing location-specific content to users, the method comprising:*
>
> (i) *identifying, by one or more computing devices, a geographical location at which a plurality of users have viewed location-specific content on their client devices, the location-specific content comprising content contained within one or more webpages that have been accessed by the plurality of users at the geographical location, the geographical location being one with poor cell phone reception and/or limited access to wireless networks;*
>
> (ii) *identifying, by the one or more computing devices, at least one common content item associated with the location-specific content viewed by two or more of the plurality of users;*
>
> (iii) *determining, by one or more computing devices, based on data received from a client device associated with a first user, that the first user is traveling to the geographical location; and*

(iv) *transmitting, by the one or more computing devices, the at least one common content item for storage on a client device associated with the first user;*

(v) *wherein transmitting the at least one common content item comprises transmitting the at least one common content item for storage on the client device prior to the first user arriving at the geographical location.*

I have numbered the features of this claim, as indicated above, for ease of reference in the following discussion.

Issue to be decided

9 There is only one issue to be decided – does this application relate to subject matter which falls within the exclusions listed in section 1(2) of the Act and, as a consequence, is it deemed not to be an invention for the purposes of the Act? In particular, does this application relate to a computer program as such?

The Relevant Law

10 Section 1(2) of the Act sets out certain categories of invention that are not patentable as follows (my emphasis in bold):

> *It is hereby declared that* ***the following*** *(among other things)* ***are not inventions for the purposes of the Act****, that is to say, anything which consists of –*
>
> *(a)…;*
> *(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)…;*
>
> *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****.*

The categories of subject matter (a)-(d) are conventionally referred to as excluded subject matter or excluded matter. In this case we are concerned with subject matter under category (c).

11 The assessment of patentability under section 1(2) of the Act is governed by the judgement of the Court of Appeal in *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371 (hereafter *Aerotel*). In this judgement, the court reviewed the case law on the interpretation of section 1(2) and approved a four-step test for deciding whether an invention is patentable. The test comprises the following steps:

(1) Properly construe the claim;

(2) Identify the actual contribution;

(3) Ask whether it falls solely within the excluded matter;

(4) Check whether the contribution is actually technical in nature.

12 Operation of this test is explained in paragraphs 40-48 of the *Aerotel* judgement. Paragraph 43 confirms that identification of the contribution is essentially a matter of determining what it is that the inventor has really added to the sum of human knowledge and involves looking at the substance of the invention claimed, rather than the form of the claim. Paragraph 46 explains that the fourth step of checking whether the contribution is technical may not be necessary because the third step, which asks whether the contribution falls solely in the area of excluded matter, should have covered that point already.

13 Subsequently, the Court of Appeal in *Symbian Ltd's Application* [2008] EWCA Civ 1066 (reported as *Symbian* [2009] RPC 1) (hereafter *Symbian*) made clear that the *Aerotel* test is not intended to be a departure from the previous requirement set out in case law, namely that the invention must provide a 'technical contribution' if it is not to fall within excluded matter.

14 Lewison J (as he then was) in *AT&T/CVON Innovations* [2009] EWHC 343 (hereafter *AT&T*) set out five factors or signposts that he considered to be helpful when considering whether a computer program makes a technical contribution. These signposts were modified slightly in *HTC Europe Co Ltd V Apple Inc* [2012] EWHC 1789. The five signposts are:

(i) Whether the claimed technical effect has a technical effect on a process which is carried on outside of 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.

Argument and Analysis

15 In carrying out the analysis for excluded matter, I am bound to follow the Court of Appeal judgement in *Aerotel* and apply the four step test outlined therein.

Step (1): Properly construe the claim

16 The first step of the *Aerotel* test requires me to properly construe the scope of the claimed invention. I do not believe that there is any particular dispute over the construction of claim 1 which reads in a straightforward manner when considered in conjunction with the disclosure of the description. I note that the construction of the claim has not been a source of contention during the prosecution of the application.

17 With regard to the scope of the claim 1, as amended, I note the following:

(a) It is now a requirement of step (i) of the method that the location-specific content is content contained within one or more webpages that have been accessed by a number of users at the geographical location. Such content may comprise the webpage as a whole or a subset of the text, images or other items contained with the webpage. While the application does discuss other methods of identifying location-specific content, such as the analysis of images taken using cameras on client devices, such methods are now outside the scope of the claimed invention.

(b) As part of the final round of amendments filed on 21 March 2018, step (i) is also now explicitly concerned with the issue of poor mobile telephone reception and/or limited access to wireless networks.

(c) It would appear clear from the application as a whole that the processes set out in steps (i) and (ii), in which location-specific content viewed by a number of users is identified, are ones which takes place over an extended period of time irrespective of and before it is known that the first user is travelling to the geographical location. Data is collected from multiple users at the geographical location, indeed potentially from numerous geographical locations, and stored in a database or similar in advance of and in anticipation of later steps in the method.

(d) As previously noted, the determination in step (iii) that the first user is travelling to the geographical location can be achieved through a number of means, such as the analysis of search or navigation requests or using location data received from the first user's client device. I therefore consider that step (iii) can be viewed as relating not only to a situation where the first user is physically travelling to the geographical location but also to where it is determined that the user appears to be intending to travel to said location.

Step (2): Identify the actual contribution

18 The second step of the *Aerotel* test requires me to identify the actual or alleged contribution. As noted above, it is made clear in paragraph 43 of *Aerotel*, that identifying the contribution involves determining what the inventor has really added to the sum of human knowledge, and this involves looking at the substance and not the form of the claims (as construed in step (1)). However, the court in *Aerotel* acknowledged that, for a patent application (as opposed to a granted patent) it may only be possible to acknowledge the alleged, rather than the actual, contribution.

19 It is clear from the application as a whole that there is no new or inventive hardware or arrangement of hardware used with or facilitating the claimed method, indeed the application goes to some length to highlight that the particular configuration of hardware required to work the method is all but immaterial. On this basis, the contribution cannot be deemed to relate to any new arrangement of physical hardware and must instead lie purely in the described method.

20 In the examiner's report of 11 September 2017, the examiner stated that the contribution:

> *'…relates to the provision of data, which previous users have accessed at a location based on the determination that a user is travelling to that location. This has the advantages of providing information more rapidly to the user when they reach the location, and perhaps with knock on benefits in terms of managing demand or dealing with circumstances where there might be limited network access.'*

21 Based on the papers filed by the applicant, there is little to indicate what the applicant felt the contribution should comprise when considering the test set out in *Aerotel*. I do note however that in the applicant's response of 11 August 2017, when discussing excluded matter, it was argued that the 'inventive concept' of the claimed invention resides:

> *'…in identifying content that has by* [sic] *viewed by other users at a particular location and transmitting such content to a user travelling to that location, in order that the user may still access that content in the event that they have limited or no network connectivity when arriving at the location.'*

While stated to be the inventive concept rather than the contribution, this analysis is in general agreement with that of the examiner and I take this as evidence of what the applicant likely believes the contribution to be.

22 I also note the examiner's statement in their report of 3 April 2018 that there was agreement between the examiner and the applicant's attorney during their prior telephone conversation on the first two steps of *Aerotel*, the clarity of the claim and the contribution. The report continues by stating that this agreed-upon contribution:

> *'…relates to the provision of information that the user may wish to access when visiting a certain location, in the absence of network connectivity at that location. This is achieved by determining that the user is travelling to that location and prior to their arrival at the location, transmitting content that the other users have previously viewed when situated at that particular location.'*

23 Given the claims as they are currently amended, I consider the contribution to be a computer-implemented method which identifies location-specific webpage content which has been viewed by two or more users in a geographical area with poor mobile telephone reception and/or limited access other wireless networks. Then, upon determining that a first user is travelling to said geographical area, one or more items of the identified location-specific content are transmitted to the first user's client device

prior to the first user arriving at the geographical location, the items being stored on the user's client device so that they can be accessed by the user at the geographical location irrespective of whether or not there is mobile telephone reception or access to wireless networks.

Step (3): Ask whether the contribution falls solely within the excluded matter

Step (4): Check whether the contribution is actually technical in nature

24 I will consider steps (3) and (4) of the *Aerotel* test together. As previously noted, the application makes it clear that the arrangement of hardware used to implement the method is immaterial to the working of the invention. Given this point, the contribution must therefore be viewed as being embodied purely in a computer program. There appears to have been agreement between the examiner and the applicant on this point.

25 Having determined that the contribution relates to a computer program, it is necessary for me to check whether the contribution is nevertheless actually technical in nature such that the invention can be deemed patentable. Both the examiner and the agent have referred to the five *AT&T* signposts and I agree that it is useful to consider the signposts on this point.

26 No arguments have been raised by the applicant in regard to the initial four signposts and I do not think that it is therefore necessary to consider the first four signposts in any great detail. There is no suggestion that the claimed technical effect has a technical effect on any process carried on outside of the computer. As noted by the examiner in their report dated 11 September 2017, the only effect outside of the computer is the provision of data which may be displayed to a user, which cannot be considered to be a *technical* effect. There is no suggestion that a technical effect operates at the level of the architecture of the computer nor is there any effect on how the computer operates or runs. I do not believe that there is anything in the application which might be shown to provide a technical effect to the contribution in light of these signposts.

27 It is the fifth signpost which is the most relevant and I note that it is towards this point that most of the discussion relating to the application has been directed.

28 During the prosecution of the application there have been a number of statements from the applicant and examiner about what the 'perceived problem' is that the application is deemed to be addressing. The examiner has consistently argued that the invention is directed towards solving the problem of limited network access at a particular location.

29 The applicant argued in their letter of 11 August 2017 that:

> *'…the claimed invention solves the problem that users of mobile devices may experience limited network access when travelling between different locations.'*

30 In both the letters of 25 October 2017 and 21 March 2018, the applicant argued that:

'…the technical problem…is one of provisioning a user device with information that the user may wish to access when visiting a certain location, in the absence of network connectivity at that location.'

31 I believe that the examiner is correct in their appraisal of the perceived problem relating to the issue of poor network access at a particular location. I consider that the applicant has instead focussed on what are effectively the aims or benefits which can be achieved by negating this problem, i.e. providing a user with information, rather than on the problem *per se* that causes this situation. The disclosure of the application as a whole is explicit in detailing the problem of users being unable to access content due to limited or non-existent wireless network availability, noting the problem at several points while at the same time mentioning no other potential problems. Particularly in light of the amendments to claim 1 referred to in paragraph 17(b) above, which specify that the claimed method is concerned with geographical locations with poor mobile telephone reception and/or limited access to other wireless networks, I believe that the problem (which must be technical in nature) that the application addresses must be viewed as that of specific locations having poor network availability *per se*. That users are unable to access content when at the location is merely the result of this technical problem.

32 It is worth noting that in their letter dated 25 October 2017 the applicant argued that the method of the invention acts to provide a load-balancing effect on the network by ensuring that the distribution of location-specific content is not limited solely to access point(s) that are located in or close to that location. This might potentially imply that the issue of load balancing networks was also a perceived problem to be addressed by the application. However, it would be difficult to accept this argument given that this notional benefit is not mentioned at any point in the application as filed, either in respect to the claimed invention or in discussion of the invention more generally. Furthermore, it is difficult to see how simply transmitting content to a user at one, earlier point in time would necessarily help balance the load on a network as compared to transmitting the content at a later point in time. Indeed without knowledge and consideration of the other loads on the network, it might just as likely compound loading issues on the network rather than help balance them. As such, this argument is not persuasive and this was not an argument which the applicant returned to or pursued in later correspondence.

33 Having identified the technical problem, it is then necessary to determine whether the contribution acts to solve the problem or circumvent it. The examiner, in his official report dated 23 November 2017, argues that the fact that the information which the user may want to access which relates to the geographical area with poor connectivity is pre-loaded on the user's device before the user reaches that geographical location is "a paradigm example" of circumventing the problem rather than solving it. In their letter of 21 March 2018, the agent acting for the applicant disagrees with this characterisation and, argues that their invention can be distinguished from a number of previous decisions which found that the technical problem was circumvented rather than solved.

34 The applicant argued that the application can be distinguished from the Decision of the Technical Board of Appeal of the European Patent Office (EPO), T-0258/03 – 3.5.1 *Hitachi* (2004) (hereafter *Hitachi*) (as discussed in *AT&T*) in so far as the present application is not concerned with implementing a business method in a computer

environment but rather with a problem which is fundamentally technical in nature, namely how to provide a user device with information which the user may require at a particular location in the absence of network connectivity at that location. But, as previously stated, I do not believe that this accurately reflects the technical problem which is being addressed, i.e., that of poor network availability at a specific geographical location. I am also not convinced by the implied argument that circumvention can only occur where there is modification to a business method. While the technical problem may have been circumvented by modification of a business method in *Hitachi*, there are numerous examples of problems being circumvented by means other than modification of a business method such as those in the decisions noted in the following paragraph.

35 It is also argued by the applicant that the application is distinguished from IPO decisions BL O/150/11 *Direct TV Pty's Application* and BL O/244/13 *Apple Inc's Application*, where the amount of data transmitted was reduced in order to address a problem of bandwidth limitations, as in the claimed method there is no reduction or alteration in the data which is sent. However, I believe that this again places too narrow an interpretation on what 'circumvention' may involve and in the case of the current invention the circumvention is temporal in nature with the data being sent at a different time to avoid issues relating to poor network connectivity rather than the data being sent e.g. in a different format. To my mind this is still a *prima facie* way of circumventing the technical problem, i.e. a lack of mobile telephone reception and/or limited access to wireless networks at the location in question. The method does not result with the user actually having improved mobile telephone reception or improved access to wireless networks at the location, as such the technical problem is not addressed or resolved. As the technical problem has not been solved it must therefore be viewed as having been circumvented.

36 For completeness, I would also note that IPO decision BL O/097/11, *Vodafone Group PLC's Application* (hereafter *Vodafone*), was discussed at several stages during the prosecution of this application. While I can appreciate the examiner's position that *Vodafone* has some analogy with this application in terms of the technical facts of the case, I am also in agreement with the applicant's argument that *Vodafone* has little to say on the issue of circumvention of technical problems and how to apply the fifth *AT&T* signpost. As such I do not believe that *Vodafone* has any great bearing on my decision. I remain of the opinion that the technical problem is circumvented rather than solved such that the contribution cannot be deemed to be technical in nature in light of the fifth *AT&T* signpost.

Conclusion

37 Taking into account all of the above, I consider that the invention claimed in patent application GB1621211.0 is excluded under section 1(2)(c) of the Act as being a program for a computer.

38 Having considered the application as filed, I am unable to identify any material in the specification that could reasonably be expected to form the basis of a patentable claim. I therefore refuse the application under section 18(3) of the Act for failure to comply with section 1(2)(c) of the Act.

Appeal

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

Dr L CULLEN

Deputy Director, acting for the Comptroller