INTELLECTUAL PROPERTY OFFICE

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28 November 2011

PATENTS ACT 1977

APPLICANT Really Virtual Company Ltd.

ISSUE Whether patent application number GB 0723276.2 complies with section 1(2)

HEARING OFFICER Dr. S. Brown

DECISION

Introduction

1 This decision concerns the issue of whether the invention claimed in UK patent application GB 0723276.2 relates to non-excluded subject matter as required by section 1(2) of the Act. The application is entitled "Method of Anonymising an Interaction Between Devices". It was filed on 28th November 2007 and was published as GB 2455099 A.

2 During the examination process, the examiner reported that the invention defined in the claims was excluded as a method of doing business and/or a program for a computer. Despite several of rounds of amendment the applicants and the examiner were unable to resolve this issue and a hearing was held on 28th September 2011. The applicants were represented by Mr. Michael Brewer of Marks & Clerk and one of the inventors, Mr. John Taysom, was also present. Hearing assistant Mr. Alastair Kelly also attended.

Decision in Brief

3 Following the *Aerotel* test, the contribution in this case can be identified as a method of allowing a user access to tailored services on the web whilst maintaining their anonymity. This is achieved by placing the user in one or more sets, the size and nature of these sets being such as to maintain anonymity while also allowing certain user characteristics to be determined.

4 I consider that, unlike in *Symbian,* this contribution does not overcome a problem which lies within the computer itself, nor within the wider computer network. Rather it resolves the conflict between the user's desire for anonymity and the provider's desire/need to identify that user. Any enhanced security does not arise from making the computer itself, or the computer network, more reliable or more secure. What the invention does is offer users a 'third way' that allows a good degree of anonymity plus the option of tailored services.

5 This conclusion is reinforced when the signposts in *Cvon* are considered. I am forced to conclude that the contribution consists only of excluded subject matter and does not have a relevant technical effect. **It fails the *Aerotel* test as no more than a program for a computer as such**. I can see nothing that could be reasonably expected to form the basis of a valid claim and therefore refuse the application under section 18(3). The applicants may appeal within 28 days. I will now explain my decision in more detail:

The Application

6 The main claims I was asked to consider at the hearing were filed on 2nd August 2010. A first and second auxiliary set were also supplied for consideration during the hearing process. In the main request there are 35 claims in total comprising 2 independent claims (claims 1 and 27) which relate respectively to a method and an apparatus. Both are for anonymising an interaction between a user entity and a service provider. While there are minor differences between the independent claims, claim 1 is typical and reads:

> *A method of anonymising an interaction between a user entity and a service provider node wishing to provide a service to the user entity in dependence upon characteristics of the user entity determined or revealed as a result of the interaction, the method comprising: assigning the user entity to at least one set, each set comprising as members a plurality of user entities sharing a characteristic associated with that set; ensuring that the intersection of the at least one set comprises at least a predetermined number of user entities; and providing to the service provider node, as part of the interaction, information relating to the or each characteristic associated with the at least one set, the information being for use at the service provider node in providing a service to the user entity, as part of the interaction, that is appropriate in view of the characteristics of the user entity but insufficient to identify the user entity.*

7 The first auxiliary request comprises 32 claims in total of which claims 1 and 24 are independent relating respectively to a method and an apparatus. Again, both are for anonymising an interaction between a user entity and a provider. For ease of reference in the following quote I have underlined the differences between the first auxiliary claim and the equivalent main claim quoted above. Again, while there are minor differences between the independent claims of this set, claim 1 is typical and reads:

> *A method of anonymising an interaction between a user entity and a provider node wishing to provide data to the user entity in dependence upon characteristics of the user entity determined or revealed as a result of the interaction, the method comprising: assigning the user entity to at least one set, each set comprising as members a plurality of user entities sharing a characteristic associated with that set; ensuring that the intersection of the at least one set comprises at least a predetermined number of user entities; and providing to the provider node, as part of the*

interaction, information relating to the or each characteristic associated with the at least one set, the information being for use at the provider node in providing data to the user entity, as part of the interaction, that is appropriate in view of the characteristics of the user entity but insufficient to identify the user entity.

8 The second auxiliary request comprises 35 claims in total of which claims 1 and 27 are independent relating respectively to a method and an apparatus. Once again both are for anonymising an interaction between a user entity and a provider and I have underlined the differences from the equivalent main claim. Again, there are minor differences between the independent claims of this set but claim 1 is typical and reads:

A method of anonymising an interaction between a user entity and a provider node wishing to provide a technical resource to the user entity in dependence upon characteristics of the user entity determined or revealed as a result of the interaction, the method comprising: assigning the user entity to at least one set, each set comprising as members a plurality of user entities sharing a characteristic associated with that set; ensuring that the intersection of the at least one set comprises at least a predetermined number of user entities; and providing to the provider node, as part of the interaction, information relating to the or each characteristic associated with the at least one set, the information being for use at the provider node in providing a technical resource to the user entity, as part of the interaction, that is appropriate in view of the characteristics of the user entity but insufficient to identify the user entity.

9 In my view, the issues and arguments before me are equally applicable to the main set of claims and both auxiliary requests. Thus the following discussion relates equally to all sets.

The law and its interpretation

10 Section 1(2) of the Patents Act reads:

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: …

(c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer;…

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.

11 In addition to the above there is also the equivalent section of the EPC, article 52(2), to consider, though it is accepted that I am bound to follow the precedent set by the UK courts and treat EPO practice only as persuasive. In considering

this application I will therefore follow the case law established in the UK in *Aerotel*[1]*,* and further elaborated in *Symbian*[2] and *CVON*[3].

12 In *Aerotel* the Court of Appeal approved a four-step test for the assessment of patentability, namely:

1) Properly construe the claim

2) Identify the actual (or alleged) contribution

3) Ask whether it falls solely within the excluded matter

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

13 The operation of the test is explained at paragraphs 40-48 of the judgment. Paragraph 43 confirms that identification of the contribution is essentially a matter of determining what it is the inventor has really added to human knowledge, and involves looking at substance, not form. Paragraph 47 adds that a contribution which consists solely of excluded matter will not count as a technical contribution.

Application of the *Aerotel* test

Properly construe the main claim

14 I do not think that any significant problems arise over the construction of the main set of claims. They relate to a method of anonymising an interaction between a user and a service provider and the associated apparatus. The user is assigned to a set of members sharing at least one characteristic. This characteristic is used as information by the provider to provide a service, data, or other technical resources, to the user which is tailored in some way based on the characteristic. The set that the user is placed in is such that it is not possible to identify which individual in the set has requested the service, data, or resource. This allows a user to make use of tailored services whilst maintaining anonymity.

15 In practice this is done by a 'broker' which sits between the user and the provider. When a user wishes to interact with a provider the broker assigns a user to one or more groups of similar users. The broker passes characteristic data which is common to an entire group to the provider and the provider uses the characteristic data to provide a tailored response which it passes back to the broker. The broker then passes the tailored response back to the user. Therefore all the provider ever sees is a group rather than an individual user. The broker changes the size and the make-up of the group dynamically based on the level of security desired by the user and the particular interaction. If needed the broker will introduce fictional members of the group to make up the required number in the group.

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[1] Aerotel Ltd v Telco Holdings Ltd (and others) and Macrossan's Application [2006] EWCA Civ 1371

[2] Symbian Limited's Application [2008] EWCA Civ 1066

[3] AT&T Knowledge Ventures LP and CVON Innovations Limited [2009] EWHC 343

16 I am very grateful to Mr. Taysom for giving several real-life examples of how the system could work in practice. These were very useful in establishing my understanding of the system but I will not go into detail about them here.

17 So in short, the claims relate to an improved way of accessing content and services on the web that simultaneously permits both anonymity and the tailoring of responses to specific characteristics of the user. Whilst the expression 'tailored services' was used throughout our discussions it is acknowledged that this was used as short hand for 'tailored services, data, and/or other technical resources'. I will use the expression throughout this decision in the same way.

Properly construe the auxiliary claims

18 Claim 1 of each of the auxiliary sets of claims is equally straightforward to construe. The only difference between the auxiliary sets and the main claims is the expression used to define the provider and the services provided. Whilst the emphasis of each differs slightly, in my opinion, they all amount to the same thing in principle: a way of providing anonymity whilst still enabling a user to access tailored content and services on the web.

Identify the contribution

19 In his reports the examiner had argued that it was known to provide anonymity via a proxy service. He thus reasoned that the contribution amounted to no more than the user being able to choose a lesser degree of anonymity in order to receive tailored services. Naturally, Mr. Brewer disagreed with this position, arguing that the contribution was broader than this. He argued that what has been added to human knowledge was a method of providing truly secure anonymity whilst also providing access to tailored services which would previously not have been possible to access whilst maintaining any anonymity.

20 Mr. Brewer argued that use of a simple proxy identity was vulnerable to certain types of attack such as list attacks and that using such methods an individual could still be identified even behind a proxy. Since the invention provided a way of dynamically changing the number and sizes of groups that a user belonged to it was not possible to identify a single user using such an attack. Further, the membership of these groups meant the invention was a means of accessing tailored services whilst maintaining this anonymity. I am happy to accept this identification of the contribution.

21 So in summary, the contribution is a way of allowing a user access to tailored services and data on the web whilst maintaining their anonymity. This is achieved by placing the user in one or more sets, the size and nature of these sets being such as to maintain anonymity while also allowing certain user characteristics to be determined.

Ask whether it falls solely within the excluded matter

22 Mr. Brewer argued that the examiner's approach to this question was incorrect and pointed me at paragraph 34 of *Aerotel* which states that:

The second objection to the contribution approach is that accepted by this court in Merrill Lynch *– a* reductio ad absurdum *argument. An example of it runs thus: suppose the "discovery" of the genetic (nucleotide) sequence which encodes for a particular valuable protein and a claim to a novel cloning vector incorporating that sequence. If you "strip out" the discovery all you have is a known sort of cloning vector. So all that has been added is the discovery – since that is unpatentable the claim is unpatentable too. That cannot be right – it would exclude many valuable inventions. Hence the contribution approach is wrong.*

23 Mr. Brewer argued that the examiner's approach was that there were two inter-related contributions: one relating to anonymisation and the other to the tailoring of services. He argued that if the *Aerotel* wording were to be used in the present case then it could be said that *'if you strip out the tailoring of services, all you have is a known sort of anonymisation service. So all that has been added is tailoring of services – since that is unpatentable as a method of doing business the claim is unpatentable too'*. He argued that following *Aerotel* such reasoning could not be right. He argued that the invention should be looked at as a whole, looking at the end result or the overall contribution, without breaking it down in to individual contributions which may be excluded.

24 I agree with this reasoning and, for the sake of argument at least, I am willing to accept that the invention is not a method of doing business as such. The claim is not limited to instances where its application is purely business related, indeed I am happy to accept that it could be in effect whenever a user accesses the internet for almost any reason. Next I will consider whether or not the invention is a computer program as such.

25 There is no doubt that the contribution is delivered by software running on conventional computing devices in a conventional network. It was agreed that there is nothing unusual in the hardware used, the network or the data packets used to communicate across the network. The key question is thus: 'is it more than a program for a computer as such?'

26 Mr. Brewer argued that the present case was very similar to that of *Aerotel* which also was delivered by software running on conventional computing devices in a conventional network. While I agree with this degree of similarity, I am also mindful of paragraph 54 of *Symbian* which states that:

More positively, not only will a computer containing the instructions in question "be a better computer", as in Gale, but, unlike in that case, it can also be said that the instructions "solve a 'technical' problem lying with the computer itself". Indeed, the effect of the instant alleged invention is not merely within the computer programmed with the relevant instructions. The beneficial consequences of those instructions will feed into the cameras and other devices and products, which, as mentioned at [3] above, include such computer systems. Further, the fact that the

improvement may be to software programmed into the computer rather than hardware forming part of the computer cannot make a difference – see Vicom; indeed the point was also made by Fox LJ in Merrill Lynch.

27 In this case the invention does not solve a technical problem lying with the computer itself. Nor does it solve a technical problem within the network or with the data packets exchanged. Indeed the problem that it solves is one which arises simply from a user being unwilling to agree to the conditions necessary to obtain tailored services (i.e. a loss of anonymity). With the existing art a user can choose to remain anonymous or they can choose to have access to tailored services as long as they are willing to forego anonymity. This may be because the provider requires the data in order to provide the desired tailored response or because the provider's business model requires the data so that it can use it to tailor future advertising etc. or a combination of both. I can see that there is a desire to access tailored services and/or data whilst maintaining anonymity and that the method and apparatus provided by the invention will be of significant use in this area. But this alone does not mean that the invention satisfies the legal requirements for patentability under S1(2) of the Act.

28 Mr. Brewer made it clear that the invention provided a new functionality: a way of accessing tailored content without forsaking anonymity. To my mind this overcomes a problem which does not lie within the computer itself, nor within the network, but rather in the way that a user's desire for anonymity conflicts with a provider's desire to identify that user. In the words of Symbian, the invention does not result in a 'better' computer, neither does it result in a 'better' network. What it does is offer users a 'third way' that allows a good degree of anonymity plus the option of tailored services.

29 Mr. Brewer also argued that the contribution results in a more secure network environment for a user since it maintains anonymity whilst still allowing access to tailored services. Again, I am not convinced that such a contribution is enough to avoid exclusion. The enhanced security does not arise from a way of making the computer itself, or the computer network, more reliable or more secure.

30 Similar points were considered by Lewison J in *Cvon*, when trying to define a "technical effect". In paragraphs 39-41 of *Cvon*, he went on to say:

> *It seems to me, therefore, that Lord Neuberger's reconciliation of the approach in Aerotel (by which the Court of Appeal in Symbian held itself bound, and by which I am undoubtedly bound) continues to require our courts to exclude as an irrelevant "technical effect" a technical effect that lies solely in excluded matter.*
>
> *As Lord Neuberger pointed out, it is impossible to define the meaning of "technical effect" in this context, but it seems to me that useful signposts to a relevant technical effect are:*
>
> *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 there is an increase in the speed or reliability of the computer;

v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.

If there is a technical effect in this sense, it is still necessary to consider whether the claimed technical effect lies solely in excluded matter.

31 For thoroughness I will now consider all of the signposts in turn:

i. The contribution identified above does not reside within any single computer, being located rather at some point intermediate between a user's computer and a service provider. However, as argued above, it does not have any technical effect on the user's computer itself, nor on the network or anything beyond it;

ii. The contribution identified above does not operate at the level of the architecture of the computer, nor does it operate irrespective of the data being processed or the applications being run. It operates only when a user wishes to access tailored content over the internet;

iii. In this case the computer itself is not operating in a new way. Only the use of an 'improved' broker in place of a prior art proxy server is different;

iv. While a user may be able to access tailored content whilst remaining anonymous, the computer and the computer network remain unaltered;

v. The prior art problem of having to choose between anonymity or tailored content is overcome but, as discussed above, I consider that this problem relates solely to the conflicting desires of the user and of the provider.

Overall, I conclude that the contribution in this case does not meet any of the CVON signposts.

32 So to recap: The contribution in this case is a method which permits a user to access tailored content on the web whilst remaining anonymous. It is my view that this contribution does not overcome a technical problem. Rather, the problem overcome arises only because the business model, or other requirements, of those providing the tailored services relies on obtaining user data and consequently the user has to forgo anonymity in order to make use of the tailored services. In short, there is no technical problem to overcome.

33 Furthermore, unlike the contribution in *Symbian*, the invention does not result in

the computer itself operating better. In light of all of this I am forced to conclude that the contribution consists only of excluded subject matter as no more than a program for a computer as such. It therefore fails the third *Aerotel* step.

34 This conclusion does not change when considering the auxiliary sets of claims. My reasoning applies equally whether it is tailored services, tailored data, or a tailored technical resource that is supplied.

Check whether the contribution is actually technical in nature

35 As reasoned above, the contribution does not have a relevant technical effect. Thus the application also fails the fourth Aerotel step.

Decision

36 I have found that the contributions made by the invention defined in the independent claims of both the main set of claims and the two auxiliary sets fall solely in subject matter excluded under section 1(2). I have read the specification carefully and I can see nothing that could be reasonably expected to form the basis of a valid claim. I therefore refuse this application under section 18(3).

Appeal

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

Dr. S. Brown

Deputy Director acting for the Comptroller