Intellectual Property Office

BL O/142/18

07 March 2018

PATENTS ACT 1977

APPLICANT	Greydog Ventures Ltd
ISSUE	Whether patent application GB 1613009.8 complies with section 1(2) of the Act
HEARING OFFICER	B Micklewright

DECISION

Introduction

1 This decision relates to patent application GB 1613009.8 entitled "Secure and Remote Dynamic Requirements Matching" in the name of Greydog Ventures Ltd. The application was filed on 27 July 2016.

2 The examiner issued a report under Section 17(5)(b) on 12 September 2016 that search would serve no useful purpose. In an accompanying examination report he objected to the claims on the basis that they were excluded from patentability under Section 1(2) of the Patents Act 1977 ("the Act"), as a computer program and/or a method of doing business. This objection was maintained through several rounds of correspondence. The matter therefore came before me at a hearing on 12 January 2017. The applicant was represented by Peter Finnie, Ruth Walker and Sam Jones of Gill Jennings & Every LLP. I was assisted at the hearing by Matthew Jefferson.

3 It will be noted that the application was not published at the date of the hearing, and the hearing was not therefore open to the public. The application has subsequently been published on 31 January as GB 2552521 A. This decision is therefore publicly available.

4 During the course of the hearing I asked for submissions on the relevance of the Patents Court decision in *Really Virtual Company Limited's Application*[1]. This decision had been raised by the examiner in his examination reports, albeit with little argument as to its relevance. Nevertheless, it seemed to me that it would be *prima facie* relevant to the issue I have to decide. In the event the applicant did not have any submissions prepared and I therefore gave them a period of two weeks in which to submit written observations. A response was duly received and I have taken

[1] *Really Virtual Company Limited v Comptroller-General of Patents* [2013] RPC 3.

account of the argument therein. I have also taken account of the arguments submitted by the applicant in their helpfully provided skeleton argument.

The invention

5 The invention relates generally to a method for operating a price matching or price comparison type website, in particular one where items are priced dynamically and tailored or matched to the purchaser. Particular examples would be mobile phone contracts or insurance where there are a number of factors that govern the price offered to any particular purchaser. Typical prior art price comparison websites may offer a single form for a potential purchaser to complete, the contents of that form then being shared with retailers or service providers in order to determine the best prices. This can however lead to potentially sensitive data being shared amongst many different retailers. It is alleged in the application that purchasers may be put off using such price comparison websites because of concerns regarding the security of their data. The invention offers a solution to such concerns by ensuring that user data is not shared with retailer websites but a comparison is nevertheless able to be made.

6 The invention achieves this by providing a data matching platform remote and independent from retailer websites. The data matching platform receives profile data from a potential purchaser and matching rules from retailers and compares them in a secure environment. In effect the invention provides a secure trusted intermediary for the price comparison process. This provides the advantage of generating matches for a user whilst shielding their data from retailers which improves trust with the user such that they are more likely to utilise the system.

7 The invention may be further understood by reference to figure 1 of the application reproduced below:

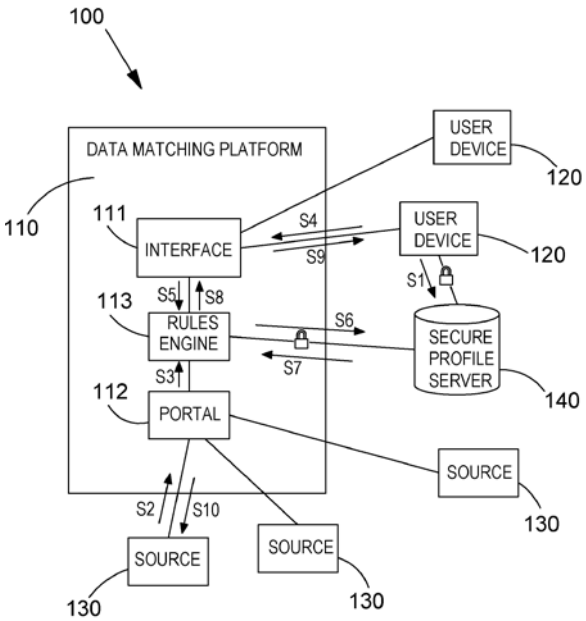

FIG.1

8 The figure shows users connected to the data matching platform (110) via user devices (120). A secure profile server (140) securely stores user data and this may be accessed by the data matching platform. The data matching platform also stores the match requirements submitted by retailers (sources – 130).

9 The applicant has not sought to make any amendments to the claims and they remain as filed. There are 20 claims. Claim 1 is a method claim as set out below. Claims 2 to 18 are further method claims dependant on claim 1. Claim 19 relates to a data matching platform which performs the method of claim 1 and claim 20 is directed to a system comprising the data matching platform of claim 19 and a secure profile server.

10 Claim 1 reads:

> 1. *A computer-implemented method of securely and dynamically generating requirements matches for a user, the method comprising a data matching platform remote and independent from one or more sources of requirements matches:*
>
> *receiving a user requirements match request message comprising a user identifier (ID);*
>
> *responsive thereto, transmitting a profile request message comprising the user ID to a secure profile server;*
>
> *responsive thereto, a secure computing environment of the data matching platform receiving profile data linked to the user ID from the secure profile server;*
>
> *receiving one or more matching rules from each of the one or more sources of requirements matches; and*
>
> *generating one or more requirements matches for the user within the secure computing environment in dependence on at least one of the matching rules and the profile data such that the profile data is shielded from the sources of requirements matches.*

11 Claim 19 relates to a data matching platform which performs the method of claim 1. In substance it has the same scope as claim 1 and I do not need to consider it separately.

The Law

12 Section 1(2) of the Act states (emphasis mine):

> *1(2) It is hereby declared that the following (amongst other things) are not inventions for the purposes of the Act, that is to say, anything which consists of –*
>
> *(a) a discovery, scientific theory or mathematical method;*

(b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;
(c) a scheme, rule or ***method for*** *performing a mental act, playing a game or* ***doing business, or a program for a computer****;*
(d) the presentation of information;

but the foregoing 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 The provisions of Section 1(2) were considered by the Court of Appeal in *Aerotel*[2] when a four-step test was laid down to decide whether a claimed invention is patentable:

(1) Properly construe the claim;
(2) Identify the actual contribution;
(3) Ask whether it falls solely within the excluded subject matter;
(4) Check whether the actual or alleged contribution is actually technical in nature.

14 It was stated by Jacob LJ in *Aerotel* that the test is a re-formulation of and is consistent with the previous "technical effect approach with rider" test established in previous UK case law. Kitchen LJ noted in *HTC v Apple*[3] that the *Aerotel* test is followed in order to address whether the invention makes a technical contribution to the art, with the rider that novel or inventive purely excluded matter does not count as a "technical contribution".

15 The Court of Appeal in *Symbian*[4] ruled that the question of whether the invention makes a technical contribution has to be addressed when considering the computer program exclusion, although it does not matter whether that takes place at step 3 or step 4.

16 Lewison J in *AT&T/CVON*[5] set out five signposts that he considered to be helpful when considering whether a computer program makes a technical contribution. Lewison LJ reformulated the signposts in *HTC v Apple* in light of the decision in *Gemstar*[6]*.* The signposts 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.

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[2] *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371
[3] *HTC Europe Co Ltd v Apple Inc* [2013] EWCA Civ 451
[4] *Symbian Ltd v Comptroller-General of Patents* [2008] EWCA Civ 1066, [2009] RPC 1
[5] *AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat)
[6] *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10

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.

Assessment

17 At the hearing the attorneys sought to establish that the invention had a technical contribution/effect that took it outside the exclusions. Although they did not formally present their arguments using the four-step approach set out in *Aerotel* the Courts have made it clear that this is the appropriate framework for considering the question of whether an invention lies solely in excluded fields. As I have confirmed above, this approach includes the question of whether the invention makes a technical contribution.

Step (1): Properly construe the claims

18 The construction of claim 1 is not disputed. Claim 1 relates to a computer method for generating price matches for a user involving a remote and independent data matching platform. The first steps in the method are receiving a match enquiry from a user including a user ID and transmitting a request to a secure profile server for the profile data linked to the user ID. The profile data is then received in a secure environment of the data matching platform. Matches are then generated for the user in the secure environment based on rules received from the sources of matches (retailers or service providers). The profile data is shielded from the sources of matches.

19 It will be noted that the profile data is secured at all times by virtue of it being stored in the secure profile server and received in a secure environment of the data matching platform.

Step (2): Identify the actual contribution

20 In *Aerotel* the Court of Appeal provided useful guidance in relation to determining the contribution. In paragraph 43 of this judgment Jacob LJ said:

> *"The second step – identify the contribution - is said to be more problematical. How do you assess the contribution? Mr Birss submits the test is workable – it is an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are. What has the inventor really added to human knowledge perhaps best sums up the exercise. The formulation involves looking at substance not form – which is surely what the legislator intended."*

21 I cannot find any explicit statement by the applicant regarding what they consider the actual contribution to be. There are numerous references to potential technical contributions but no identification of an actual or alleged contribution.

22 The examiner identified the contribution as follows:

> *A computer implemented method of generating requirements matches, wherein the match is based on one or more matching rules, received from one or more source of requirements matches, and user profile data obtained from a server. This provides the advantage of shielding user's profile data from the sources of requirements matches.*

23 However, this omits any consideration of the secure environments involved.

24 The invention essentially comprises a trusted intermediary which allows matching of user requirements with tailored offers available from service providers in a secure environment. Secure storage of user data in itself is well known. Trusted retailer websites provide such secure storage. Carrying out secure transactions over the internet is also well known. The problem addressed is how to allow multiple service providers access to that data, so that tailored services can be offered, without sending the data across the internet and to providers who may not be trusted. The solution is to provide storage for service provider offers and corresponding matching rules at the trusted intermediary and to execute a comparison between the user data and the matching rules in a secure environment of the trusted intermediary. In other words, rather than having the offers and matching rules distributed widely across the internet they are all contained within the trusted intermediary. Mr Finnie argued that providing improved data security is an advantage of the invention. Whilst this may be the case I think it important to spell out in the contribution the sense in which data security is improved, namely by avoiding the need to share user data with multiple service providers.

25 Taking all this into account, I consider the contribution to be:

> *A computer-implemented method of providing tailored services to a user without sharing user data, the method providing a secure trusted intermediary which compares securely stored user profile data with matching rules provided by sources of tailored services and generates requirements matches in accordance with this comparison.*

Steps (3) & (4): Does the contribution fall solely within the excluded subject matter; check if the contribution is actually technical.

26 It is convenient when considering the exclusions to deal with steps (3) and (4) together. In other words I must now decide whether the contribution is technical in nature or whether it falls solely within excluded subject matter.

27 The first point Mr Finnie was keen to make was that the invention was clearly more than just a business method, and that it could only be excluded if it was a business method *as such.*

28 In the context of inventions which are both business methods and computer programs I note the following paragraph from *HTC v Apple*:

> *[47] Third, the exclusions operate cumulatively. So, for example, the invention in Gale related to a new way of calculating a square root of a number*

with the aid of a computer and Mr Gale sought to claim it as a ROM in which his program was stored. This was not permissible. The incorporation of the program in a ROM did not alter its nature: it was still a computer program (excluded matter) incorporating a mathematical method (also excluded matter). So also the invention in Macrossan [Aerotel] related to a way of making company formation documents and Mr Macrossan sought to claim it as a method using a data processing system. This was not permissible either: it was a computer program (excluded matter) for carrying out a method for doing business (also excluded matter).

29 Accordingly, where business methods are implemented on computers, if an invention is to be patentable it must avoid both the business method exclusion and the computer program exclusion. In this vein I note also the comments of Birss J in *Halliburton Energy Services*[7]*:*

> *"35. The business method cases can be tricky to analyse by just asking whether the invention has a technical effect or makes a technical contribution. The reason is that computers are self-evidently technical in nature. Thus when a business method is implemented on a computer, the patentee has a rich vein of arguments to deploy in seeking to contend that his invention gives rise to a technical effect or makes a technical contribution. For example, the computer is said to be a faster, more efficient computerized book keeper than before, and surely, says the patentee, that is a technical effect or technical advance. And so it is, in a way, but the law has resolutely sought to hold the line at excluding such things from patents. That means that some apparently technical effects do not always count. So a computer programmed to be a better computer is patentable (Symbian) but as Fox LJ pointed out in relation the business method exclusion in Merrill Lynch, the fact that the method of doing business may be an improvement on previous methods is immaterial because the business method exclusion is generic."*

30 The fact that the invention is a business method implemented on a computer, and is therefore arguably more than just a business method, does not necessarily save it from the exclusions of Section 1(2). Nevertheless, I must also bear in mind the further remarks made in *HTC v Apple*:

> *"57. ... Now it is fair to say that this solution is embodied in software, but, as I have explained, an invention which is patentable in accordance with conventional patentable criteria does not become unpatentable because a computer program is used to implement it. I believe the judge took his eye off the ball in focussing on the fact that the invention was implemented in software and in doing so failed to look at the issue before him as a matter of substance not form. Had he done so he would have found that the problem and its solution are essentially technical in nature and so not excluded from patentability."*

31 It is in this context that I assess one of the arguments made at the hearing that the invention comprised a technical effect in that it provided improved data privacy, and this did not fall within either of the exclusions.

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[7] *Halliburton Energy Services Inc. v Comptroller-General of Patents* [2011] EWHC 2508 (Pat)

32 Mr Finnie also stressed that it was a matter of substance over form and that I needed to avoid "salami slicing" the invention.

33 Mr Finnie drew a number of analogies to illustrate his case. Perhaps the most illustrative is in respect of patents for encryption technology. The analogy made was that if encryption inventions were sliced one would end up with an invention made up of a computer program and a mathematical method, both of which are excluded such that the whole would be excluded. Yet patents are granted for such inventions on the basis that they confer a technical advantage relating to improved computer security. Mr Finnie also argued that because the applicant's invention results in improved security it is also patentable.

34 With regard to the last point, I do not consider that the improved security of the invention brought about by implementing a trusted intermediary is the same as the improved security of encryption which provides for *better* computers. The latter is a technology potentially applicable to all computer communications whilst the invention is simply a strategy for preventing sensitive data falling into the hands of untrusted service providers.

35 In relation to improved data security, the decision in *Really Virtual Company Limited's Application* is, it seems, particularly significant. The invention of that application was summarised by the court as follows [*my emphasis*]:

> *19 The invention in the present appeal is concerned with the manner in which a user accesses services on the internet. It provides for the user retaining anonymity from the provider of the services while at the same time being offered services tailored to his personal requirements. Mr Davis explained it as follows: (i) user A provides information to trusted confidant B in the form of a specific request for services (B is implemented in the invention by a node or module), (ii) B puts A into a group of persons with similar characteristics who want answers to the same request; the specification calls this 'clustering', (iii) B says to service provider C that there is a group of persons of particular characteristics who want a response to the specific request, and (v) B passes C's tailored response to A. In its broadest aspect, the tailored services may be in one of two categories: a) data (e.g. specific advertising) tailored to a specific individual, or b) data tailored to an individual's device (iPhone, iPad, pc, etc).*

36 Although *Really Virtual Company Limited's Application* is directed to tailored advertising it nevertheless has as its objective shielding sensitive user data from a source of services, and in that respect at least has similarities with the current application.

37 The deputy judge in *Really Virtual Company Limited's Application* went on to find the application excluded as both a computer program and a business method. He said [*my emphasis*]:

> *27 Moreover and in any event, if one does follow Mr Davis's suggestion, in my judgement there is only one conclusion and that is that the invention is bad because of both the computer program and business method exclusions. The invention is a simple algorithm (which Mr Davis accepted could be implemented entirely in software or in a mixture of software and hardware) for a method of*

doing business. That method is as described in paragraph 19 above [quoted above]. It differs from the prior art method of using a proxy server by reason of the introduction of the broker node which maintains anonymity by clustering. But it is still a method of doing business, no more and no less.

…

37 As was made clear as long ago as Vicom, decisive is what technical contribution the invention as defined in the claim when considered as a whole makes to the known art. Here, anonymous web access using a proxy server or anonymiser service is acknowledged in the specification to be known and what is said to be new is the provision of tailored services to the anonymised user. Those services are provided by the intervention of the trusted broker (see page 6 of the specification) which uses clustering (to group and therefore anonymise the users) in order to present an anonymised request for tailored services to a service provider.

38 In my judgement there is nothing technical in that contribution. It is no more than a method of A doing business with C using B as an intermediary or agent for the purpose of keeping A's identity secret from C. The fact that B uses a clustering technique as its anonymiser does not in my judgement make the contribution technical, as that word has been used in the various authorities to which resort must be paid for guidance. Indeed, the problem solved by the invention is not a technical problem, as was noted by the hearing officer in his decision.

38 The facts outlined in paragraph 37 of *Really Virtual* compare very closely to those of the current application. In particular both are directed to the provision of tailored services to a user who wishes to retain a degree of anonymity via a trusted intermediary. The difference lies in the method of maintaining anonymity. In the present case anonymity is provided by hiding data from retailers by virtue of the use of a secure profile server and a secure environment, i.e. it is never shared with the retailer at all. *In Really Virtual* the data is clustered with similar data and then shared with retailers without identifying individuals.

39 In their written submissions regarding *Really Virtual*, the applicant distinguishes between them as follows:

"To summarise, in Really Virtual's claimed invention, instead of A providing data directly to C in order to request a tailored response from C per the traditional model, A provides data to C via B, so that B can strip out data extraneous to A's request which could identify A. This is technically very different to the method of the present invention, ***wherein no data flows from the analogue of A to the analogue of C*** *at all, whether directly or via an analogue of intermediary B."*

40 Whilst I agree that they differ in this way, I do not consider that the difference represents any kind of technical contribution. In both cases business methods have been adopted to provide tailored services to users who are anonymous to the retailer. In essence the present invention resides in realising that if you store the matching rules in B you do not need to send anything to C, and that seems to me to

be a business strategy rather than a technical solution. Overall it is no more than a method of A doing business with C using B as an intermediary for the purpose of keeping A's identity secret from C. This was found to lack any contribution in *Really Virtual* and I see no reason to diverge from that finding in the present case.

41 The applicant continues in their submissions regarding *Really Virtual* as follows:

> *According to the present invention, the use of the secure computing environment to generate the requirements matches means that, unlike in really Virtual, no data needs to flow from A to C at all, anonymised or otherwise. As explained previously,* ***the prevention of movement of data*** *achieved in this way is the relevant* ***technical effect*** *required by Gemstar (and in fact analogous to Gemstar's technical effect of movement of data) for the claim not to relate* ***solely*** *to excluded subject matter in the sense of step three of the Aerotel/Macrossan test.*

42 This was a point also raised at the hearing, that the prevention of movement of data was in some way analogous to the initiation of movement of data which was found to provide a technical contribution to the invention in *Gemstar*. I do not agree with this analogy, indeed there appears to be a fundamental flaw in it. In *Gemstar* at paragraph 234 the reasons for allowing the patent (*the transfer patent*) are stated as follows:

> *234 Again the question is whether what the invention achieves has a relevant technical effect. This time I think it does. This is not merely a computer running a program without any effect in what might be regarded as the outside world. While it does not produce a "better computer" it does actually achieve something which can be regarded as a physical effect, namely the initiation of the movement of data from one disk to another (both metadata and TV program content). That seems to me to be enough to prevent it being just a computer program as such and to render it patentable material. It is true that it does not produce an effect outside the system itself, but it is still an effect.*

43 It is clear from this paragraph that the initiation of movement of data from one disk to another is regarded as a physical effect sufficient to confer patentability. I do not see how the absence of movement of data provides any physical effect. Without a physical effect there is no technical effect and *Gemstar* provides no assistance to the applicant.

44 I now consider whether any technical contribution can be identified by application of the reformulated *AT&T/CVON* signposts.

> *i) Whether the claimed technical effect has a technical effect on a process which is carried on outside the computer.*

45 I do not consider that there is any technical effect on a process which is carried on outside the computer. As identified above the physical effect identified in *Gemstar* is not relevant to this application and there is no equivalent. Additionally, where a system comprises a number of computers operating together across a network, the system as a whole may be considered to be *the computer* for the purposes of this

signpost (see paragraph 30 of *Lantana*[8]), and in such cases the effect one component computer has on another component computer does not provide a technical contribution. This is such a case and I cannot see that there is any technical effect on a process which is carried on outside the system.

46 In *Protecting Kids the World Over (PKTWO)*[9]*,* which the applicant has referred to, the application was allowed at least in part because there was a technical effect outside the computer. Referring to *Gemstar (transfer patent),* the judge found that the generation of a remote alarm which provided for improved monitoring of the content of electronic communication was a technical contribution. However, I cannot see a technical effect outside the system of the current application such that PKTWO provides no assistance.

> *ii) Whether the claimed technical effect operates at the level of the architecture of the computer; that is to say is the effect produced irrespective of the data being processed or the applications being run.*

47 The architecture referred to in this signpost is the operating system or software architecture of the computer and not the architectural arrangement of computers in a system. The claimed technical effect should be produced whatever software is run on the computer. There is nothing in the application which operates at this level of architecture and the invention is clearly not intended to improve the operation of all software run on the computer.

> *iii) Whether the claimed technical effect results in the computer being made to operate in a new way?*

48 Neither does the invention cause the computer to operate in a new way. All the component parts of the system are operating conventionally, albeit that they are running a new program.

> *iv) Whether the program make the computer a better computer in the sense of running more efficiently and effectively as a computer?*

49 Similarly, the system does not provide a better computer in the sense of running more efficiently and effectively as a computer.

50 It has been suggested that the computer runs more reliably on account of the fact that user profile data is stored so that errors are not generated by users repeatedly entering their details. This however has nothing to do with the reliability of the computer itself, and that remains unchanged.

> *v) Whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented?*

51 This signpost will only be of assistance when the perceived problem is a technical problem. The problem in this case is one of users not submitting their details because of concerns regarding the use of such data. This is not a technical problem.

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[8] *Lantana v Comptroller-General of Patents* [2013] EWHC 2673 (PAT).
[9] *Protecting Kids the World Over (PKTWO) Ltd's Application* [2011] EWHC 2710

Equally, the solution of adopting a trusted intermediary is not a technical solution, at least not beyond the fact that it is embodied in a computer system.

52 I cannot find anything in the AT&T/CVON signposts which assists the applicant. None of them point to a technical contribution,

Conclusion

53 Having failed to identify a technical contribution, I therefore conclude that the contribution relates solely to excluded matter as a business method and a computer program as such. The contribution is non-technical. The invention is therefore excluded from patentability by Section (1)(2) of the Act.

54 I cannot see anything in the dependent claims or in the description more generally, nor has anything been drawn to my attention, which would provide a technical contribution to take the invention outside the scope of the exclusions.

55 I therefore refuse the application.

Appeal

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

B Micklewright
Deputy Director, acting for the Comptroller