

15 August 2008

## PATENTS ACT 1977

APPLICANT                      CVON Innovations Limited

ISSUE                          Whether patent application number GB  
0623571.7 complies with section 1(2)

HEARING OFFICER              J E Porter

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## DECISION

### Introduction

- 1 Patent application number GB 0623571.7 entitled “System for Authentication of Network Usage” was filed in the name of CVON Innovations Limited on 27 November 2006, with no claim to priority. It was published on 26 September 2007 as GB 2 436 412 A.
- 2 Despite correspondence between the examiner and the applicant, and amendment of the claims during the substantive examination process, the applicant has been unable to persuade the examiner that the claimed invention is not excluded from patentability under section 1(2) of the Act.
- 3 The applicant therefore requested to be heard, and the matter came before me at a hearing on 19 June 2008. The applicant was represented by Ms. Heather McCann and Mr Chris Price of the firm EIP, who were assisted by the inventor Mr Janne Aaltonen and also Mr Sami Saru, both of CVON Innovations Limited. The examiner, Mr. Jared Stokes, also attended.
- 4 The hearing was in respect of the application in suit, and also a later application GB 0707711.8 which claims priority from the application in suit. A separate decision (BL O/241/08) has been issued in respect of that later application.

### The invention

- 5 The invention lies in the field of mobile telecommunications systems, and is concerned with users who subscribe to a communications network, and who send and receive messages over that network. It is also concerned with the fact that users may be members of one or more “groups” – such as an on-line discussion forum, club or society websites, or other such communities. In

particular, the invention concerns a system which modifies the messages sent between particular users on the basis of those users' membership of particular groups. The modification to the message may, for example, be the addition of an advertisement or other promotional information relevant to the group membership of the sender or recipient. The invention also concerns authentication of a user's membership of a particular group.

- 6 The latest set of claims, which were filed on 17 June 2008 for consideration at the hearing, comprises four independent claims: 1, 10, 19 and 20.
- 7 Claim 1 relates to a messaging system in a mobile telecommunications network, and reads:

*A messaging system for transmitting messages between user terminals in a mobile telecommunications network, said system comprising data storage means arranged to hold subscriber records, said subscriber records including a plurality of fields including a group field for storing data indicative of group membership of a subscriber,*

*wherein said messaging system is arranged to:*

*receive, over a data communications network, group membership data from a first subscriber;*

*identify, using the group membership data, a remotely accessible information source corresponding to the group;*

*request, over a data communications network, access to the identified remotely accessible information source on the basis of identification data associated with the group membership data, and, responsive to receipt of a response over the data communications network from the remotely accessible information source, to perform a first storage action in respect of a response of a first type and to perform a second storage action in respect of a response of a second type, the first storage action comprising updating the group field in the subscriber record so as to indicate authenticated membership of the group identified in the received group membership data;*

*receive a message being transmitted between user terminals in the mobile telecommunications network, the message including transmission data identifying messaging parties, the messaging parties comprising a sending party and a receiving party, where at least one of the messaging parties comprises said first subscriber;*

*identify said first subscriber as a messaging party;*

*determine group membership of the first subscriber on the basis of the updated subscriber record;*

*modify the message on the basis of the determined group membership;*

*and transmit the message to the receiving party on the basis of the transmission information.*

- 8 Claim 10 is a similarly-worded claim to a method of transmitting messages, claim 19 is a claim to a computer program or programs adapted to perform the method of claim 10, and claim 20 is a claim to a computer-readable medium containing the program(s) of claim 19.

### **The law**

- 9 Section 1(2) of the Act declares that certain things are not inventions for the purposes of the Act, as follows:

*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 –*

*(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 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.*

- 10 The examiner and the applicant agree that the assessment of patentability under section 1(2) is governed by the judgment of the Court of Appeal in *Aerotel Ltd v Telco Holdings Ltd* and *Macrossan's Application* [2006] EWCA Civ 1371, [2007] RPC 7 ("*Aerotel*"). In this judgment, the court reviewed the case law on the interpretation of section 1(2) and approved a four-step test for the assessment of what is often called "excluded matter", as follows:

Step 1: properly construe the claim

Step 2: identify the actual contribution (although at the application stage this might have to be the alleged contribution)

Step 3: ask whether it falls solely within the excluded matter

Step 4: check whether the actual or alleged contribution is actually technical in nature.

- 11 At the hearing, Ms McCann also made some points in relation to the judgment of the Patents Court in *CFPH LLC's Applications* [2005] EWHC 1589 (Pat), [2006] RPC 5 ("*CFPH*") and in relation to passages in *Symbian Ltd's Application* [2008]

EWHC 518 (Pat) ("*Symbian*") which refer to the judgment of the Patents Court in *Shoppalotto.com Ltd's Application* [2005] EWHC 2416 (Pat), [2006] RPC 7 ("*Shoppalotto*"). I refer to these points again below.

### **Arguments and analysis**

- 12 Despite the correspondence between the applicant and the examiner, and amendment of the claims, the examiner maintained that the claims (in the form in which they existed when he last examined them) defined an invention which related solely to a program for a computer and a method for doing business. His position is set out in his report of 5 March 2008.
- 13 What I must do is determine whether the claims, as they now stand, relate solely to excluded subject matter.

### Construing the claims

- 14 Claim construction was dealt with fairly briefly at the hearing, and in my view there is no great difficulty in construing the independent claims. They relate to a mobile telecommunications network messaging system and method, in which group membership of a subscriber is authenticated (or not), and then used as a basis for modifying messages sent between users' terminals, at least one of whom is a subscriber.
- 15 This involves group membership data being received from a subscriber and used to identify an appropriate information source, access to which is requested using identification data. The response is used to authenticate (or not) membership of the group, and to update the subscriber records accordingly. When a message is being transmitted between user terminals, the messaging parties (at least one of whom is a subscriber) are identified from transmission data. The subscriber is then identified and their group membership is determined from the updated subscriber record. The message is modified on the basis of that membership and then transmitted to the receiving party's terminal.

### Identifying the contribution

- 16 In paragraph 43 of *Aerotel*, it is made clear that identifying the contribution is probably best summed up as determining what the inventor has really added to human knowledge, and this involves looking at the substance and not the form of the claims (as construed in step one).
- 17 Ms McCann discussed in some detail at the hearing the contributions which she argued were made by the invention. These discussions were also prefaced by a more general discussion by Mr Aaltonen of the technical background to the invention and the advantages of the system.
- 18 Mr Aaltonen explained that the authentication of group membership using identification data supplied by the subscriber avoided the need to undertake expensive and time-consuming integration with many different databases. It also brought benefits in terms of flexibility, since it allowed users easily to introduce new groups to the system.

*The first alleged contribution*

19 Ms McCann developed this point further. She identified, as the first of three contributions made by the invention, the way in which the invention provides for subscriber-driven updating and authentication of the group membership details. She argued that this feature allows users to make use of the message modification service (either as sender or recipient) very quickly after supplying details of their membership of a particular group. It also does not require what she termed “significant infrastructure support”. And it ensures that the system is only updated regarding group membership of a subscriber when this is relevant. The result, as she put it, is that

“updates to group records are only made by parties that are going to use the message modification service. And, because the changes are made directly by the subscriber, the updating is always in sync with the subscriber status as he understands it to be”.

20 I agree with Ms McCann that a contribution made by the invention is the process by which subscriber-driven updates may be effected to the group membership data. I note that this is also largely consistent with the assessment by the examiner in paragraph 6 of his examination report of 5 March 2008, at a time when the claims were directed solely to the features concerning updating group membership records and did not include the message modification aspect.

*The second alleged contribution*

21 This brings me to the second contribution identified by Ms McCann, which was the feature of having rules for message modification which depend on the “group records”.

22 It is necessary at this point to make reference to the related, later application GB 0707711.8 mentioned in paragraph 4. This later application claims priority from the application in suit and shares an almost identical description. As noted above, the hearing was held in respect of both applications, since both have been objected to by the examiner as being for inventions which relate solely to excluded matter.

23 Originally, the claims of the application in suit were directed to the subscriber-driven updating of group membership data, and the claims of the later application were directed to message modification based on group membership. So, in assessing the contribution of the application in suit, the examiner did not have to consider any message modification feature. Now that a message modification feature has been included, it makes relevant the examiner’s considerations in respect of the later application.

24 The search conducted by the examiner under section 17 on the later application revealed prior art documents which, in the examiner’s view, show that the idea of modifying messages based on user profiles is known. All but one of those prior art documents were published before the filing date of the application in suit.

25 Ms McCann conceded that modifying messages on the basis of profile

information is known but at the hearing both Ms McCann and Mr Price argued that there were differences between modification of a message based on a user profile as shown in the prior art, and modification of a message based on a group record. As I understood it, their argument was based on two points, which I shall deal with separately.

- 26 The first point was that the cited documents are concerned with message modification based on user profiles held within the messaging system. By distinction, message modification in the claimed invention is based on membership of groups which, as Mr Price said, “are pre-existing and independent of this particular service from which the profile information is derived”.
- 27 However, looking at the claims and the description, it is clear that the “group records” are records held by the messaging system which, amongst other things, identify the messaging parties as being members of one or more groups. And it is clear from the description that these groups may comprise online or virtual communities as well as real communities (clubs, committees, etc) which in either case are, as Mr Price argued, independent of the messaging service. So, although the groups are indeed external to the messaging service, the records which are kept in connection with group membership are kept by and as a part of the messaging service. And it is on the basis of these records that the messages are modified.
- 28 In this respect, I can discern no material difference with the arrangement described in, for example, WO 2004/100470 A1, published on 18 November 2004. This makes clear that SMS or MMS messages are modified by selecting content to be added to the message. The selection of that content is based upon stored data relating to “personal characteristics” held within the messaging system – such as data relating to age or occupation or areas of interest (the examples given being types of music, football or types of drink).
- 29 In relation specifically to identifying the contribution, I do not think it is material that the examples of personal characteristics in the prior art relate to, for example, an interest in football rather than, for example, membership of a particular football supporters’ club. Both are examples of data concerning the personal characteristic or interest of a subscriber which may be stored in the messaging system, and on which message modification is based. In other words, if the prior art teaches that messages may be modified based on data saying “I’m interested in football”, then to my mind there is nothing materially new in modifying messages based on data which says instead “I support club A” or “I am a member of club A’s supporters’ club”.
- 30 The second point made was that there is a difference between using individual profiles containing information about each user, and using group records containing information about which users are in a particular group. As Ms McCann explained:

“they cluster subscribers into groups [which] actually acts as a short cut in relation to the search space. So what you do is, you look up the groups first to see whether or not the recipient is part of that group, and you therefore significantly reduce...where you are actually looking. You focus the search.

So the actual time, the latency, involved in finding a profile to use to modify the message is consequently reduced, because you are looking at the sender and receiver in relation to a particular group”

or, as she put it later

“you are looking out just for groups that the sender and receivers are members of rather than their entire profiles to work out concordance, in the way that is done in the prior art.”

- 31 In considering this argument I must take care not to stray from the wording of the claims as interpreted in light of the description. In this respect, I note that the description refers to “a subscriber record” being completed and/or updated for a particular subscriber and stored in a database DB1. As is explained on pages 8-9:

“The database is configured so that...any details relating to a group held on the database may be retrieved by selecting the appropriate group, and any details relating to a particular subscriber held in the database may be retrieved by selecting the appropriate subscriber.”

This would seem to be referring to the conventional ability to interrogate a database on the basis of any one of its particular fields – one of the key functionalities of any database.

- 32 Subsequently, on page 15, it is explained that:

“the selecting software 401 identifies sender and/or recipient information from an incoming message and selects, by accessing the database DB1, the respective group membership(s)...On the basis of the group memberships, the selecting software 401 identifies and processes one or more applicable rules...in order to...determine how to modify the incoming message”

- 33 Thus it is clear from the claims, interpreted in light of the description, that there is a subscriber record which contains a plurality of fields for storing data related to that particular subscriber. It includes a field related to group membership. And the independent claims make clear that it is the subscriber record (in particular, the data in the updated group field) which is used as the basis for modifying the message to be sent.

- 34 Turning back to the cited documents, these discuss the modification of messages by selecting content to be added to the message. Again, looking for example at WO 2004/100470, the selection of that content is based upon stored data contained in a database of user profile information within which are various fields for recording various characteristics, interests, etc. I can therefore see no distinction between this disclosure and the claimed feature of modifying a message based on an updated, particular subscriber record.

- 35 Taking all these strands together, and having carefully considered the various arguments made at the hearing, I find that the claimed feature of modifying

messages based on subscriber records relating to group membership and held by the messaging system is known.

*The third alleged contribution*

36 The third contribution that Ms McCann identified was, as she put it, that “messages that are modified in this way are transmitted to user terminals outside of any computer program”.

37 I do not agree that the third contribution identified by Ms McCann is present. Reading the claimed invention in light of the description, I can discern no suggestion that the way in which the modified messages are transmitted to user terminals is different from conventional methods. On the contrary, in the embodiment discussed on page 7, the SMSC is “configured to store and forward messages in accordance with conventional methods”.

*Analysis of the contribution actually made*

38 In determining the contribution made by the claimed invention, ascertaining that individual features discussed above are known is not the end of the matter. It does not necessarily follow that because a particular feature of a system is known, any contribution made by that particular feature can be dismissed.

39 This is because it is not as simple as slicing the invention up into its component parts and then assessing the novelty or inventiveness of each of those parts. What is required is to assess the contribution made by the claimed invention as a whole, and so the interaction between the various features (known or otherwise) needs to be considered when making that assessment.

40 Having carefully considered the description and the applicant’s arguments presented at the hearing, I am not satisfied that there is sufficient interaction between, on the one hand, the feature of undertaking subscriber-driven authentication of group membership and updating the subscriber records accordingly and, on the other, the feature of sending modified messages on the basis of that data, for it to be said that there is a contribution made by these features in combination.

41 What the known feature does is to go through the steps of message modification on the basis of a field of the subscriber’s record or profile. I have found nothing which has persuaded me that these steps are materially different in the present invention from those in the prior art as a result of any interaction with the earlier steps of authenticating the group membership of the subscriber. In other words, the known features do not in my view interact with the other features in such a way that all the features identified can be taken as a unitary whole to deliver a contribution.

42 There is, however, a further point. At the hearing, Ms McCann argued that what was being provided by the claimed invention was

“a new architecture, in the sense that we have got a new arrangement of known components, and this architecture is specifically for updating



database records and modifying messages. The database records are updated in response to input from a mobile terminal rather than a provisioning system...There is no known arrangement whereby a key part in the provisioning is the mobile terminal.”

- 43 It is not clear to me, from the invention as claimed, that this is in fact the case. The system itself, in accordance with the description, comprises a conventional mobile network, SMSC and WAP gateway. It also comprises a terminal for registration, a user registration server, and a known message modification system (server, database(s) containing subscriber details and modification rules) all of which are connected to the Internet. Finally, there is the “group server” S3, which is simply the server associated with the club, society, etc and from which authentication of membership is received over the Internet.
- 44 Thus, looking at the description and the invention as claimed, it seems to me that what has been added to the sum of human knowledge is not an improved mobile telecommunications network. Rather, the contribution made by the claimed invention is in providing subscriber-driven updating and authentication of the subscriber’s group membership data, which is held as part of a message modification service in a mobile telecommunication network.

Does the contribution fall solely within excluded matter?

- 45 As is clear from *Aerotel*, what I must now do is decide whether the contribution relates solely to one or more of the matters which are excluded from patentability under section 1(2).
- 46 It is clear from my analysis above that there is no contribution made in terms of the hardware or the arrangement of the system. The contribution lies in the subscriber-driven updating and authentication of the group membership field of a subscriber record.
- 47 In my view, allowing a subscriber to prompt for updates to and authentication of his group membership records is not a technical matter, but a decision in relation to the business of running a message modification service. In particular, it is a business choice, made when deciding how to run the message modification service, that one should obtain some sort of confirmation that the subscriber is a member of the group claimed. Furthermore, it is a business choice to allow the authentication to be prompted by the subscriber – that is to say, it is a business decision about how the authentication should be carried out. Thus, for example, it is a choice made in respect of the business of running a message modification service to decide to ask the subscriber to provide log-in details or other data, which are used to verify membership of a particular on-line forum or other group. The way in which this data is then used to carry out the authentication involves the conventional use of websites and the Internet. Thus the decision to use such an authentication step bestows no saving technical element upon the contribution as I have identified it.
- 48 It follows that there is nothing in these improvements which bring the claimed invention outside of the business method exclusion. The improvement that results is an improved business method – that is to say, a better way of using a

conventional message modification system to modify the content of messages on the basis of subscribers' records.

- 49 Turning to the computer program exclusion, I have already found that the system as described involves conventional use of and connection between a mobile telecommunications network, WAP gateway, SMSC, the Internet, various servers, databases and a terminal. The contribution does not lie in these features.
- 50 It seems to me that that improved method is implemented by the conventional use of the various pieces of hardware by computer software. In particular, the software allows the subscriber to provide group membership details, provides for authentication (or not) via the group server, and then updates the subscriber records held in the database(s). But the hardware operates in a technically conventional way.
- 51 Ms McCann argued, following *CFPH* and *Shopalotto*, that the claimed invention amounted to more than “a computer program up and running”. But, as I understand it, that was on the basis of the contribution as she identified it at the hearing. By distinction, I have found that there are no elements of the system forming part of the contribution made by the claimed invention which would bring the claimed invention beyond a computer program up and running. Thus, for example, I do not agree that the conventional transmission of the message to the recipient is a part of the contribution, which thus brings it beyond “a computer program up and running”. I therefore find that the contribution made by the invention falls solely within the bounds of being a computer program.
- 52 I conclude that the contribution falls solely within excluded matter, as it is no more than a method for doing business and a program for a computer. It therefore fails to meet step three of the *Aerotel* test.

Is the contribution technical in nature?

- 53 In paragraph 46 of *Aerotel* it is stated that applying this fourth step may not be necessary because the third step should have covered the question. This is because a contribution which consists solely of excluded matter will not count as being a “technical contribution” and thus will not, as the fourth step puts it, be “technical in nature”. Similarly, a contribution which consists of more than excluded matter will be a “technical contribution” and so will, as the fourth step puts it, be “technical in nature”.
- 54 Subsequent judgments in the Patents Court have tended to follow this approach – most notably *Oneida Indian Nation's Application* [2007] EWHC 954 (Pat), in which Deputy Judge (as he then was) Christopher Floyd QC said that
- “the fourth step is intended merely to make sure that inventions that have passed at step three are technical in nature. So step four is exclusionary in nature”.
- 55 However, in his judgment in *Symbian*, Patten J states at paragraph 58 that

“What is clear from the authorities is that the question whether the invention makes a relevant technical contribution has to be asked”

and also that

“Whether it is asked as part of Step 2, 3 or 4 matters much less than whether it is asked at all”.

56 It is clearly not easy to find an approach to the fourth step which is consistent with, on the one hand, *Aerotel* and various Patents Court cases which followed it and, on the other, the approach taken in *Symbian*.

57 Ms McCann did not address me directly on whether I should apply the fourth step or not. However, her submissions on whether the claimed invention was excluded or not did include consideration of whether the invention was technical in nature. It is therefore a part of the consideration I make in determining whether the contribution made by the invention is excluded under step three. I have already concluded, in assessing step three, that the contribution made by the invention is solely within the realm of a business method and also that it comprises software which involves the hardware operating in a technically conventional way.

58 Regardless of whether step four of the *Aerotel* test is an optional check or not, this means that I am in any event satisfied that the contribution made by the invention contains nothing which is technical in nature – and thus it should be regarded as excluded under step three.

### **Conclusion**

59 I conclude that the invention of independent claims 1, 10, 19 and 20 is excluded from patentability under section 1(2)(c) because it relates solely to a method for doing business and a program for a computer.

60 I can find no further disclosure in the specification upon which patentable claims might be based. I therefore refuse the application under section 18(3) for failure to comply with section 1(2)(c).

### **Appeal**

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

**Dr J E PORTER**

Deputy Director acting for the Comptroller