

17 December 2014

PATENTS ACT 1977

APPLICANT Samsung Electronics Co. Ltd

ISSUE Whether patent application GB 1117410.9 complies
with the requirements of sections 1(1)(d) and 1(2)

HEARING OFFICER B Micklewright

DECISION

Introduction

- 1 This decision relates to patent application GB 1117410.9 entitled “*Method and apparatus for providing mobile advertising service in mobile advertising system*” in the name of Samsung Electronics Co. Ltd. The application was filed under the provisions of the Patent Cooperation Treaty on 11 March 2010 with international application number PCT/KR2010/001534 claiming an earliest priority date of 10 April 2009 and was initially published as WO 2010/117141 A2 on 14 October 2010. On entering the national phase in the UK, it was subsequently re-published as GB 2480983 A on 7 December 2011.
- 2 The application has four independent claims. The UK examiner objected that the claims lack unity of invention. The examiner also raised objections that the claims are excluded from patentability under section 1(2) of the Patents Act 1977 (“the Act”) both as a computer program and a method of doing business. After a number of rounds of amendment the examiner was satisfied that the claims relate to a single inventive concept but maintained her objection regarding section 1(2). A further objection arose regarding whether amendments to the claims have disclosed matter extending beyond that disclosed in the application as filed.
- 3 The matter subsequently came before me at a hearing on 20th October 2014. The applicants were represented by Dr Susan Keston of HGF Ltd. The examiner Mrs Nicola Payne also attended. I was assisted at the hearing by Dr Susan Dewar.
- 4 At the hearing, Dr Keston became aware that she had not received the examiner’s pre-hearing letter dated 16th September 2014 which outlined her most recent objections. I granted Dr Keston two weeks to respond to this letter if she wished to do so. The extended compliance period expired on 16 July 2014; I agreed to extend the period by a further two months.
- 5 A further letter was received from Dr Keston on 21st October 2014 in which she responded to the examiner’s earlier letter and also provided a written summary of her submissions in response to the outstanding patentability objections. An amended

set of claims was also filed on this date resolving the added matter objection. Therefore the only issue for me to decide is whether the application complies with the requirements of section 1(2).

The Invention

- 6 The application relates to a method and apparatus for providing a personalized advertising service through portable terminals such as mobile phones and Personal Digital Assistants (PDAs). In the invention, if a particular user wishes a personalized advertisement to be delivered to other users or group members an advertising server can provide the personalized advertisement based on the preference set by the particular user.

The Law

- 7 The examiner raised an objection under section 1(2) of the Act stating that the invention is not patentable because it relates *inter-alia* to one or more categories of excluded matter. The most relevant provisions of this section of the Act are shown in bold below:

1(2) It is hereby declared that the following (amongst other things) are not inventions for the purpose of the Act, that is to say, anything which consists of –

- (a) a discovery, scientific theory or mathematical method;*
- (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) 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.

- 8 The provisions of section 1(2) were considered by the Court of Appeal in *Aerotel*¹ 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.*

- 9 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/Apple*² 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”.

¹ *Aerotel Ltd v Telco Holdings Ltd and Macrossan’s Application* [2006] EWCA Civ 1371; [2007]

² *HTC v Apple* [2013] EWCA Civ 451

- 10 The Court of Appeal in *Symbian*³ ruled that the question of whether the invention makes a technical contribution has to be addressed when considering the computer program exclusion, although it doesn't matter whether that takes place at step 3 or 4.
- 11 Lewison J in *AT&T/CVON*⁴ set out five signposts that he considered to be helpful when considering whether a computer program makes a technical contribution. Lewison LJ reconsidered the signposts in *HTC/Apple* in light of the decision in *Gemstar*⁵. 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

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 of the claims

- 12 In the final set of claims filed on 21st October 2014 there are 23 claims four of which are independent. These are directed to various aspects of the invention but all relate to the same underlying concept and thus will stand or fall together. Therefore for the purpose of this decision I need only consider claim 1 reproduced below. Independent claims 9, 15 and 20 are provided for completeness in an appendix.

*1 A method for providing a mobile advertising service in a server of a mobile advertising system, the method comprising the server (120):
receiving from a advertising engine (130B) a group creation request message (301) including a user list and a group user preference, wherein the group user preference indicates criteria for a preference of at least one user in the user list set to receive a personalized advertisement from the server;
creating a group by using the user list and the group user preference included in the group creation request message, the group creation comprising the server (120) processing an authentication procedure for the advertising engine (130B);
sending a response message (303) in response to the group creation request message to the advertising engine (130B);
receiving an advertisement request message from one or more advertising engines (130A, 130B) included in the user list;
selecting an advertisement appropriate for the group user preference; and*

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

⁴ *AT&T Knowledge Ventures/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat)

⁵ *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10

delivering (307, 309) the selected advertisement to said one or more advertising engines depending upon the authentication procedure for the advertising engine (130B).

Step (1): Properly construe the claims

- 13 The construction of claim 1 is not disputed and poses no particular problems. In summary claim 1 relates to a method of providing a mobile advertising service in a server of a mobile advertising system. The advertising server receives a “group creation request message” from an advertising engine. The message includes a user list and a group user preference. Upon receipt of the message the server processes an authentication procedure for the advertising engine and also sends a response message to the advertising engine. The server subsequently delivers a selected targeted advertisement appropriate to the group user preference to at least one advertising engine included in the user list.

Step (2): Identify the actual contribution

- 14 Dr Keston pointed out that from *Aerotel* paragraph 43 the identification of the contribution involves looking at the substance rather than the form of the claimed invention. Further, this step should essentially be a matter of determining what it is the inventor has really added to human knowledge and this involves (quoting from Jacob LJ) “*an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are*”. I am in agreement that this is the correct approach to take. It is useful when assessing the contribution to identify these three factors.

The problem to be solved

- 15 As discussed in paragraph [2] of the specification, recent advancements have allowed advertising services to be provided through portable terminals (such as mobile phones and PDAs) using conventional broadcasting systems and mobile communication systems. In paragraph [5] we are told that a personalized advertisement may be provided to a user of a mobile device by the mobile device transmitting its preference via an advertising engine (located in the mobile device) to a remote advertising server. The advertising server selects an advertisement satisfying the user’s preference information and delivers it to the advertising engine. Sometimes a particular user wishes to deliver a requested advertisement to other users who are members of a group. However it is strictly limited for other users to use this user preference as it constitutes personal information. Thus distributing advertisements to a group in this way has previously been achieved by the other user(s) providing the same preference information independently to the advertising server. The problem addressed by the invention is how to implement a preference sharing method so that an advertising server can provide the same personalized advertisement as that of a particular user to group members based on the preference specified by the particular user.

How the invention works

- 16 The application was searched during the international phase when the claims were found to be both novel and inventive (although the customary “top-up” search has not yet been carried out). A prior art arrangement is described in the description of the application (Fig. 3) and has been taken by Dr Keston and the examiner to be the

closest previously known system. The invention can be understood by comparing this prior art arrangement with the arrangement of the invention illustrated in Fig. 4.

- 17 In a conventional mobile advertising system (Fig. 3) an advertising engine located in one mobile terminal sends a group creation request message including user preference information to an advertising server. The advertising server processes an authentication procedure for the advertising engine and sends a response message to the advertising engine. An advertising engine located in a second mobile terminal then sends a group join request message to the advertising server. The advertising server processes an authentication procedure for the second advertising engine and sends a response message to the second advertising engine. The advertising server then delivers the same advertisement to the two advertising engines.
- 18 In the invention (Fig. 4), the advertising engine in the first mobile terminal sends a new type of group creation request message this time including *group user information* to the advertising server. The advertising server processes an authentication procedure for the advertising engine and sends a response message to the advertising engine. The advertising server also *optionally* sends a response message to a second advertising engine located in the second mobile terminal and a member of the group. The advertising server then delivers the same advertisement to the two advertising engines.

What its advantages are

- 19 The consequence of this new type of group creation request message is that firstly there is no need for additional advertising engines to send a 'group join request message'. Secondly the server need only send a response message to one advertising engine, the one that sent the original message. Thirdly the server need only process an authentication procedure for the original advertising engine rather than carry out this procedure for each advertising engine involved. Therefore as Dr Keston explained, this results in fewer messages being sent between advertising engines and sever with subsequent bandwidth savings and also a simplified authentication process. These advantages, she asserts, will become greater as the size of the group of data engines increases. This ties in with a comparison of Figs 3 and 4. Although there may be other implications to this new arrangement that might provide further advantages or indeed disadvantages I see no reason to disagree with these assertions for the purpose of this decision.
- 20 I note and there seems to be no dispute that the invention is implemented on standard computing devices. The server is clearly a computing device. The mobile terminal (e.g. mobile phone or PDA) is also a computing device as it runs software and stores and processes data. The two computing devices are connected by a conventional communication network. Further the steps of the invention rely on software for their operation.
- 21 From these considerations I regard the contribution to be a computer-implemented method of delivering a selected personalised advertisement from an advertising server to a mobile device; preference information of a particular user is shared on a group basis by the sending of a new type of group creation request message so that a personalized advertisement requested by a particular group member is delivered to other group members using this shared information in a process that requires fewer

messages to be sent between server and device and a simpler authentication process.

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

- 22 It is convenient when considering the computer program exclusion in particular 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.
- 23 Dr Keston has forwarded a number of arguments at the hearing and in her letter of 21 October 2014 to support her claim that the invention has indeed a technical effect and will therefore not relate to excluded subject matter. I will deal with each of these in turn.
- 24 Firstly to make a general point Dr Keston cited EPO decision T1805/08. From the conclusions presented there she argues that it is permitted by recent caselaw ‘for a technical implementation of a commercial system such as a mobile advertising system or a content distribution system for commercial sales outlets to be eligible for patent protection’. From this she submits that it is important that an invention concerned with a mobile advertising system although having a clear business objective is not automatically disregarded. Firstly I note that decisions given by EPO Boards of Appeal although of persuasive value are not binding on the UK IPO. Also I am reminded of Mr Justice Floyd’s remarks in *Lantana*⁶ paragraph 17:

Simply because it is possible to construct a generalised category which includes both the claimed invention in this case and a previous decision in which a claim was held to be patentable, does not help. It shows that such things can be patentable in some cases but does not show that the invention in this case is patentable.

- 25 I agree with Dr Keston that there may be cases where an invention based on a mobile advertising system is patentable. However as Dr Keston acknowledges it does not follow that all such cases are patentable. I must establish whether there is a technical contribution in this case.
- 26 As discussed above the invention involves a new type of group creation request message. Dr Keston argues that ‘the group creation request message comprises functional data which controls the technical function of the advertising server in more efficiently setting up group distribution of user-targeted content’. The functional data is detailed in particular in Table 2 on page 8 of the specification. The data includes amongst other things a Group User List for specifying the group of advertising engines and Group User Preferences. It also includes extra security features such as the ‘Valid from/Valid to’ fields. The first point I note is that this data, although it may relate to technical entities, is not technical in itself as it is merely data included as part of a message. What is important here is how the data is used.

⁶ *Lantana v Comptroller-General of Patents* [2013] EWHC 2673 (Pat)

- 27 The group creation request message is received by the server which results in the server using the data to carry out a more simplified process including sending out fewer messages to the advertising engines. (I will deal with the authentication process later.) I first note that the server here is entirely conventional in nature. Therefore it cannot be *controlled* by the data included in the message in the sense of being made to operate in a new way. It will be instructed in the way any computer will be when running a new piece of software. It seems to me that here the server is simply instructed by the message and accompanying data to send out fewer further messages. This is not in my view a technical effect.
- 28 Dr Keston alleges further that the group creation request message also changes the way in which advertising engines other than the original advertising engine interact with the server. This I think relates to a similar point that the other advertising engines unlike in the prior art arrangement do not have to send a 'group join request message'. In response, I note again that the mobile devices are entirely conventional in nature. They do not operate in a new way; they merely send out fewer messages. Again this effect cannot be considered technical in nature.
- 29 On a similar point, Dr Keston suggests that the bandwidth savings (resulting from fewer messages being sent) is in itself a technical effect. In response I consider that what is important is *how* the bandwidth is reduced. Here as discussed above it is caused by fewer messages being transmitted. This cannot be a technical effect in itself.
- 30 Dr Keston's final argument is related to the assertion that as well as resulting in fewer messages being sent, the new type of group creation request message results in the advertising server only needing to process an authentication procedure for the original advertising engine rather than carrying out this procedure for each advertising engine involved.
- 31 In support of her argument, Dr Keston drew my attention to EPO decision T 0844/09. Here, she explained, the invention involved verifying a user's authorisation to use a financial account and verifying transactions on the financial account. A different implementation of authentication involving user transactions on the user's own account rather than authentication via a verification string was found to be a different implementation of transaction security and to have a technical effect. Dr Keston's argument is that the reduced number of individual authentications in the current case is also 'a different technical implementation of authentication'.
- 32 Again as above I note that decisions given by EPO Boards of Appeal although of persuasive value are not binding on the UKIPO. Also I am reminded of Mr Justice Floyd's remarks in *Lantana* paragraph 17 quoted above. In the current invention, there is very little information provided in the specification on how the simpler authentication procedure is implemented in practice. It appears, however, that the authentication procedure remains unchanged; it is just implemented fewer times. This has not been disputed by Dr Keston. The improved authentication procedure disclosed in T 0844/09 may make a technical contribution; however merely reducing the number of times the same procedure is carried out as in this case does not, in my opinion, provide a technical effect.
- 33 For completeness it is useful to consider the *AT&T* signposts listed above. The signposts were not discussed at the hearing itself but they were addressed by both

Dr Keston and the examiner during prosecution of the application. Dr Keston referred in particular to signpost (iii) in her most recent letter.

- 34 When assessing the signposts it is helpful to consider what 'the computer' is in this case. As discussed above the advertising server is clearly a computer. The mobile terminal (e.g. mobile phone or PDA) can also be considered to be a 'computer' as it clearly runs software and stores and processes data. The two are linked via broadcasting and mobile communication systems. Adopting a similar approach to that used in *Lantana I* therefore consider the 'computer' in the invention to comprise two linked computers forming a 'computing arrangement'. As noted above the components and how they are linked are entirely conventional.
- 35 Using this approach signposts (i), (ii) and (iv) can be disposed of quite quickly. Clearly there is no effect on a process outside the computing arrangement (signpost (i)). There is also no effect that operates at the level of the architecture of any component of the computing arrangement (signpost (ii)). The computer (or computing arrangement) is not a better computer running more efficiently and effectively *as a computer* (signpost (iv)). The latter follows because again all components in the computing arrangement are entirely conventional and therefore will run as normal.
- 36 Signpost (iii) is concerned with whether the computer (or computing arrangement in this case) is being made to operate in a new way. As discussed above sending fewer messages and implementing an authentication procedure fewer times does not constitute a new way of operation. The computing arrangement is operating in the same way but just carrying out fewer transactions.
- 37 Regarding signpost (v) the problem addressed by the invention as discussed above is how to implement a preference sharing method so that an advertising server can provide the same personalized advertisement as that of a particular user to group members based on the preference specified by the particular user. I consider that the problem has been solved (at least to some extent) by the invention with the introduction of a new group creation request message and its subsequent effects.
- 38 However, it is well established in law that if the problem to be solved is not a technical problem, the solution cannot take technical character from the problem. I do not consider the problem here to be a technical one; it is an advertisement distribution problem for a conventional computing arrangement. Therefore the solution cannot take technical character from this problem. It is also established in law that the solution of a non-technical problem could have some other technical effect. However, for the reasons outlined above this is not the situation here. I note further that the problem of reducing bandwidth is circumvented by sending fewer messages rather than solved in any technical sense. Therefore signpost (v) is also not met.
- 39 Having carefully considered all the arguments presented to me, I do not consider the contribution to be technical in nature. The invention is implemented by software running on an entirely conventional computing arrangement. I therefore consider the contribution to relate to a computer program as such.

- 40 The invention is directed to providing a personalized advertising service through portable terminals. This has a clear business objective. HHJ Birss QC in *Halliburton*⁷ paragraph 35 discussed the difficulty in assessing business method cases:

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.

- 41 In this case the advertising service may well be a faster and more efficient computerized service. However, for the reasons given above I do not consider the invention to give rise to a technical effect. Therefore I consider the contribution to also relate to a business method as such.
- 42 As stated above the remaining three independent claims, claims 9, 15 and 20, are directed to similar subject matter having the same underlying inventive concept. I therefore consider these three claims to relate to the same excluded categories for the same reasons.
- 43 After carefully examining the application as a whole I can see no amendment that would render the claims patentable.

Conclusion

- 44 In conclusion I consider independent claims 1, 9, 15, 20 to relate to a both a method for doing business and a program for a computer as such and thus are excluded from patentability under section 1(2).

45 Appeal

- 46 Any appeal must be lodged within 28 days

B Micklewright

Deputy Director, acting for the Comptroller

⁷ *Halliburton Energy Services Inc's Applications* [2012] RPC 129

Appendix

The further three independent claims:

9. *An advertising server (120) for providing a mobile advertising service in a mobile advertising system, the advertising server (120) comprising:*
- a receiver configured, from an advertising engine (130B), to receive a group creation request message including a user list and a group user preference, wherein said group user preference indicates criteria for a preference of at least one user in the user list set to receive a personalized advertisement from the advertising server (120);*
 - a user/service/device data handler (121) configured to create a group by using the user list and group user preference in the group creation request message, the group creation comprising processing an authentication procedure for the advertising engine (130B) corresponding to a user in the user list;*
 - an advertisement selector (122) configured to select an advertisement appropriate for the group user preference if an information request message from one or more advertising engines of said at least one user in the user list is received; and*
 - an advertisement deliverer (123) configured to deliver the selected advertisement to said one or more advertising engines (130B) depending upon the authentication procedure for the advertising engine (130B).*
15. *A terminal (100) for providing a mobile advertising service using an advertising server, the terminal having an advertising engine (130B) comprising:*
- an user/service/device data handling unit (131) configured to generate a group creation request message including a user list and a group user preference (301), wherein the group user preference indicates criteria for a preference of at least one user in the user list set to receive an advertisement from the advertising server (120);*
 - an acquisition and delivery unit (134) configured to send the group creation request message (301) to the advertising server, and to receive a response message in response to the group creation request message, from the advertising server, the response depending upon the advertising server (120) processing an authentication procedure for an advertising engine which transmits the group creation request message; and*
 - an advertising selection unit (132) configured to display an advertisement received from the advertising server (120);*
 - wherein if the advertising server receives an advertisement request message from a certain terminal included in the user list, the advertising server (120) selects an advertisement for the group user preference, and sends the selected advertisement to the advertising engine depending upon the authentication procedure for the advertising engine (130B).*
20. *A method for providing a mobile advertising service in a terminal (100) having an advertising engine (130B), the method comprising the advertising engine:*
- generating a group creation request message (301) including a user list and a group user preference, to an advertising server (120), wherein the group user preference indicates criteria for a preference of at least one user in the user list set to receive an advertisement from the advertising server;*
 - sending the group creation request message to the advertising server;*

receiving a response message (303) response to the group creation request message, from the advertising server depending upon an authentication procedure for the advertising engine; and

displaying an advertisement received from the advertising server (120), wherein if the advertising server (120) receives an advertisement request message from certain terminal included in the user list, the advertising server (120) selects an advertisement for the group user preference, and sends the advertisement to the advertising engine depending upon the authentication procedure for the advertising engine.