BL O/174/13

29 April 2013

PATENTS ACT 1977

APPLICANT	Motorola Mobility, Inc.
ISSUE	Whether patent application number GB1019471.0 complies with Section 1(2)
HEARING OFFICER	Ben Buchanan

DECISION

1 Patent application GB1019471.0 entitled "Method and system for customization of a graphical user interface (GUI) of a communication device in a communication network" was filed by Motorola Mobility, Inc. on 11 June 2009 and published as WO2009/155203. The application claims an earliest priority date of 19 June 2008, and was republished on 23 February 2011 with the serial number GB2472940. The application was first examined on 2 February 2012 and so the normal unextended compliance period was set at 4 February 2013. This was extended to 4 April 2013 under rule 108(2), and a further discretionary request for extension under rule 108(3) was filed on 6 March 2013.

2 Following rounds of correspondence, the applicant has been unable to convince the Examiner that the invention as claimed in this application is not excluded from patentability under section 1(2) of the Patents Act 1977.

3 The matter therefore came before me at a hearing on 4 March 2013 where the applicant was represented by their attorney Paul Openshaw of Openshaw & Co. The Examiner Robert Shorthouse and Hearing Assistant Joseph Mitchell were also present.

The invention

4 The invention relates to the customisation of a graphical user interface (GUI) of a networked communication device which is used to access services such as calls, messaging and the Internet. A service usage history is analysed to enable the GUI to be customised dependent upon user patterns and preferences. The invention prioritises the placement and display of elements for selecting service options on the GUI accordingly. Consequently, the user experiences quicker and easier access to services, because the invention presents service options in accordance with the determined most likely next user action.

The claims

5 The most recent set of claims was filed on 18 May 2012 and includes two independent claims: A method for customization of a graphical user interface (claim 1) and a system for customization of a graphical user interface (claim 6).

Claims 1 and 6 read as follows:

1. A method for customization of a Graphical user interface (GUI) of a communication device in a communication network, the method comprising:

analyzing, by a communication service provider in the communication network, a usage history corresponding to a plurality of services accessed from the communication service provider by a user of the communication device, wherein the usage history comprises at least one of a plurality of user interaction patterns corresponding to the plurality of services accessed by the user and a plurality of user preferences corresponding to the plurality of services accessed by the user; and

generating a customized GUI based on the analyzing of the usage history corresponding to the plurality of services accessed by the user of the communication device, wherein the customized GUI comprises placement of the plurality of services in a priority order defined by analyzing the usage history.

6. A system for customization of a Graphical user interface (GUI) of a communication device in a communication network, the system comprising:

an analyzing module, in a communication service provider in the communication network, for analyzing a usage history corresponding to a plurality of services accessed from the communication service provider by a user of the communication device, wherein the usage history comprises at least one of a plurality of user interaction patterns corresponding to the plurality of services accessed by the user and a plurality of user preferences corresponding to the plurality of services accessed by the user; and

a generating module for generating a customized GUI based on the analyzing of the usage history corresponding to the plurality of services accessed by the user, wherein the customized GUI comprises placement of the plurality of services in a priority order defined by analyzing the usage history.

The law

6 The Examiner has raised an objection under section 1(2) of the Patents Act 1977 that the invention is not patentable because it relates to a program for a computer as such. The provisions of this section of the Act are shown below:

> **Section 1(2)**
> *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.

7 As explained in the notice published by the UK Intellectual Property Office on 8 December 2008[1], the starting point for determining whether an invention falls within the exclusions of section 1(2) is the judgment of the Court of Appeal in *Aerotel/Macrossan*[2].

8 The interpretation of section 1(2) has been considered by the Court of Appeal in *Symbian*[3]. *Symbian* arose under the computer program exclusion, but as with its previous decision in *Aerotel/Macrossan*, the Court gave general guidance on section 1(2). Although the Court approached the question of excluded matter primarily on the basis of whether there was a technical contribution, it nevertheless (at paragraph 59) considered its conclusion in the light of the *Aerotel/Macrossan* approach. The Court was quite clear (see paragraphs 8-15) that the structured four-step approach to the question in *Aerotel/Macrossan* was never intended to be a new departure in domestic law; that it remained bound by its previous decisions, particularly *Merrill Lynch*[4] which rested on whether the contribution was technical; and that any differences in the two approaches should affect neither the applicable principles nor the outcome in any particular case. But the *Symbian* judgment does make it clear, that in deciding whether an invention is excluded, one must ask does it make a technical contribution? If it does then it is not excluded.

9 Subject to the clarification provided by *Symbian*, it is therefore appropriate to proceed on the basis of the four-step approach explained at paragraphs 40-48 of *Aerotel/Macrossan* namely:

1) Properly construe the claim.

2) Identify the actual contribution (although at the application stage this might have to be the alleged contribution).

3) Ask whether it falls solely within the excluded matter.

4) If the third step has not covered it, check whether the actual or alleged contribution is actually technical.

10 The operation of this test is explained at paragraphs 40-48 of the decision. 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

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[1] http://www.ipo.gov.uk/pro-types/pro-patent/p-law/p-pn/p-pn-computer.htm
[2] *Aerotel Ltd v Telco Holdings Ltd* and *Macrossan's Application* [2006] EWCA Civ 1371; [2007] RPC 7
[3] *Symbian Ltd v Comptroller-General of Patents*, [2009] RPC 1
[4] *Merrill Lynch's Application* [1989] RPC 561

involves looking at substance, not form. Paragraph 46 explains that the fourth step of checking whether the contribution is technical may not be necessary because the third step should have covered the point.

11 Mr Openshaw acknowledged that the Examiner was correct in following this approach.

Construing the claims (step 1)

12 The first step is to construe the claims. I do not think this presents any real problems since both the applicant and the Examiner broadly agree as to the meaning of the claims. Mr Openshaw explained that he favoured a broad construction; that the interface should be seen as more than just a screen. It is an apparatus used to enter commands to do things, in this case, in a communications system. A screen may be part of the interface, but it is not the whole. The interface is the mechanism by which the user interacts with the device. To my mind this is the correct construction of the term 'interface'.

Identify the actual contribution (step 2)

13 For the second step of *Aerotel/Macrossan*, it is necessary to identify the contribution made by the invention. Paragraph 43 of *Aerotel/Macrossan* explains that this is to be determined by asking what it is - as a matter of substance not form - that the invention has really added to human knowledge having regard to the problem to be solved, how the invention works and what its advantages are. Mr Openshaw stressed the importance of including the advantages of the invention when identifying the contribution.

14 In his first examination report of 2 February 2012, the Examiner considered the contribution to be 'the selection of particular elements to form a user interface based on previous usage'. There has been no contradiction of this position throughout the correspondence before the date of this hearing. In the hearing Mr Openshaw stated that he did not disagree that this was part of the makeup of the contribution, but this was not the total contribution. The contribution was more significant than identifying the novel features. I agree with his interpretation; the contribution is not just the difference over the prior art, it includes the *practical reality* of implementation. In *Symbian* (paragraph 56) this was a faster and more reliable computer. He then explained that the actual contribution further included the solving of a technical problem by virtue of customising the GUI to enable quicker and easier access to communication services, by making using the GUI quicker and easier to use.

15 Both Mr Openshaw and the Examiner agreed at the hearing that the actual contribution could be identified as:

> *A GUI which allows access to a communications system quicker and more efficiently having prioritised user interactions according to the most likely next user action which results in a net time saving for the user in using the communications network overall.*

16 This seems to me to be a reasonable summary of the advantages and *practical reality* of the invention defined by the claims, consistent with the Court's interpretation of step 2 of the test in *Aerotel/Macrossan* and in *Symbian*.

Does the contribution fall solely within excluded subject matter? Is the contribution technical in nature? (Steps 3 and 4)

Program for a computer

17 There is no doubt in my mind that the contribution requires a computer program for its implementation. The patent description explains that mathematical and statistical operations are performed on the usage history. The results are used to customise the GUI presented to the user by placing a plurality of service selection options in a prioritised fashion according to the analysed usage history. Mr Openshaw carefully explained that the resultant interface enabled a user to access services more quickly and more easily.

18 Through the rounds of correspondence and again at the hearing Mr Openshaw put forward the argument that accessing a communication system is inherently technical and that enabling quicker and easier access to a communication system is a technical improvement. This is in contrast with, for example, merely passive viewing of a screen. Mr Openshaw stressed that the contribution was not simply the presentation of information. The invention, through the use of statistical analysis, determines 'new' information which is then used to change the GUI to prioritise the most likely next user action. As a consequence communications are quicker because user interaction is quicker.

19 The question I have to answer is whether enabling quicker user interaction, through the computer program-implemented interface of the invention – which is where the advantage is gained – is a technical contribution. Mr Openshaw did not argue that the network itself is better, or that it made connections more quickly. It seems clear to me that having received a user input, the system of the invention enables access to the selected service conventionally. The determination of the selection by the GUI is no different. What is different is the 'menu' of options with which the user is presented and the analysis of the usage history to determine and display the menu on the interface. The interface may comprise selectable elements of a different size, placement or prioritisation than the state of the art and the user may more readily identify the selection they want, because the selectable elements will be presented in accordance with the probability of their being selected. But is that technical?

To answer this question, it is helpful to consider the five signposts which Lewison J set out in *AT&T*[5] in determining that the contribution was not technical. Following *AT&T*, in *Really Virtual*[6] , John Baldwin QC (sitting as a Deputy Judge) noted that the *AT&T* signposts, although useful, are no more than signposts. The five signposts therefore offer assistance in identifying whether or not a computer program is, or is not, capable of making a non excluded contribution and, importantly, are divorced

[5] *AT&T Knowledge Ventures' Application and CVON Innovations Ltd's Application* [2009] FSR 19 para. 40
[6] *Really Virtual Co Ltd v UK Intellectual Property Office [2012]* EWHC 1086 (Ch).

from the particular context of the application. It was the opinion of the Examiner that the contribution failed to meet any of the five signposts.

20 Mr Openshaw was not entirely convinced that the signposts applied to the contribution in this case, but did provide an argument with respect to the first signpost. Therefore that is the only signpost I shall consider here:

> *(i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer;*

21 Mr Openshaw was of the opinion that there was a technical effect on a process outside the computer, as the process of the user using the communication device will be quicker. Making something quicker and more efficient for the user, he asserted, even if the system itself does not operate more quickly, is technical. In turn, he argued, communications will be quicker, because using the communications system is quicker. Mr Openshaw stressed that it was important that the outcome of the contribution was taken into account when deciding whether the contribution was technical.

22 In support, Mr Openshaw referred in particular to EPO Technical Board of Appeal decision *Canon Kabushiki Kaisha* (T643/00)[7]. In this case it was found that an arrangement of images on a screen may be considered technical if, for example they enable a user to *'manage a technical task'*, such as searching and retrieving images stored in an image processing apparatus in a more efficient or faster manner. It was concluded that the claimed invention, in arranging a plurality of images in a side-by-side manner at a low resolution and providing for hierarchical display at higher resolutions, made the searching process easier for the user, who conventionally had to comb images one by one on the display at a high resolution in order to select a particular image for output. The result ensured that a comprehensive survey as well as a fast check for details was possible.

23 EPO Technical Board of Appeal decisions can help in ensuring a consistency of approach, but I am bound by decisions of the UK Courts. In considering Mr Openshaw's argument I will consider the Board's decision in *Canon* but I must not depart from the precedents I am bound to follow. This is confirmed in *Really Virtual* at paragraph 18.

24 Turning to signpost (i) of *AT&T*, the processes operating outside the computer are the user interaction and the network connection and communication. No change to the latter is alleged, so the question is whether quicker user interaction with an interface, giving rise to a quicker user experience in accessing networked services overall, is technical. The process of a user identifying and selecting an option is carried out by the user in their mind. I do not think it is a technical process; the categories of exclusion specifically exclude thought processes as a mental act. The contribution does not allege any change to the user's mental processing capability (and if it did that would be excluded). The contribution is in the analysis and presentation of options to the user for selection. I think it is stretching the interpretation of the contribution to claim this is a process outside the computer.

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[7] Canon Kabushiki Kaisha (T643/00), from http://www.epo.org/law-practice/case-law-appeals/pdf/t000643eu1.pdf

25 Mr Openshaw emphasised that the interface is a better tool for accessing the communications network. It is a better tool because it makes life easier, and makes selecting options to access the network quicker. But these are the sorts of advantage which would be expected from a computer program-implemented interface. It may be a better interface and may therefore be considered a better tool, but it is implemented by a computer program and I cannot see that it has a technical effect on a process outside the computer.

26 The analysis of a usage history is a program-implemented process which is carried on inside the computer. The determination of probability and the consequent prioritisation only take effect outside the computer in the user's perception of the presentation of options. For the reasons stated above, I do not regard the effect of this process outside the computer to be non-excluded, or to be technical.

27 In contrast, in *Canon* the task itself of enabling searching and retrieving images was regarded as technical. The task of the present invention is to enable selection of a network service based on probable user behaviour. These are not the same thing. The task of presenting potential results of an image search for a user to choose from, and making consideration of the results quicker and easier, is not the same as determining a probable next user action and making the probable option to be selected more prominent. I therefore find there is no technical contribution, as (using the terminology used by the Board of Appeal) enabling a user to select a network service is not a technical task.

28 My analysis and conclusion is consistent with the Court's application of *Aerotel* in *Gemstar*[8]*,* in which the contribution comprised a 'better', more intuitive user interface. The Court considered the contribution not to be internal (which it was in *Symbian*) and to be non-technical because the fact that what the user perceives and interacts with is 'better' does not make the advance technical (para. 50). The Court went on to state that even if the interface was capable of being a technical effect, it fails as a presentation of information.

Presentation of Information

29 I make no finding on this point. Although it had been raised previously by the Examiner as a head of objection, it was not argued at the hearing, and the Examiner emphasised that the issue at hand was exclusion as a program for a computer. I think this is right. If the process of accessing a communication system through a quicker, more efficient ('better') user interface were technical then I would need to consider it.

30 For the reasons stated above, the contribution falls solely within the computer program exclusion and is not technical in nature.

Previous Office decisions

31 In the course of correspondence between the Examiner and the applicant a number of previous Office decisions were considered. Of these, only *Fisher-Rosemount*[9] was

[8] Gemstar-TV Guide International Inc v Virgin Media Ltd [2010] RPC 10
[9] Fisher-Rosemount Systems, Inc. BL O/438/12

discussed at the hearing and it was also referred to in skeleton arguments. Mr Openshaw directed me towards paragraphs 11 and 12 in particular, in drawing analogy between the present invention and the invention which was found to be non-excluded in *Fisher-Rosemount*. In fact it is in these paragraphs where the distinction between the two inventions also becomes apparent.

32 Whilst *Fisher-Rosemount* does reduce available process control model options by prioritising those most suited to current conditions, this has two important consequences in that particular case. Firstly memory requirements are reduced, but secondly and very importantly, the process is controlled in accordance with the selected model. Thus the right control model can be implemented more quickly and the control itself is improved, which is technical. In contrast, the task, or process, of user interaction with a network service through a customised user interface is not technical as I have determined above.

First and second auxiliary requests

33 With his skeleton arguments of 25 February 2013 Mr Openshaw filed an auxiliary request to consider a first alternative set of independent claims in the event that the present claims were found to be excluded under section 1(2). The alternative independent claims 1 and 6 were filed on 25 February 2013 and relate to a method for customization of a graphical user interface (alternate claim 1) and a system for customization of a graphical user interface (alternate claim 6).

First alternate claims 1 and 6 read as follows (changes italicised):

1. A method for customization of a Graphical user interface (GUI) of a communication device in a communication network*, the GUI being for use by a user to access a plurality of services provided by one or more of a communication service provider, a mobile network operator and a third party service provider*, the method comprising:

analyzing, by a communication service provider in the communication network, a usage history corresponding to a plurality of services accessed from the communication service provider by a user of the communication device, wherein the usage history comprises at least one of a plurality of user interaction patterns corresponding to the plurality of services accessed by the user and a plurality of user preferences corresponding to the plurality of services accessed by the user; and

generating a customized GUI based on the analyzing of the usage history corresponding to the plurality of services accessed by the user of the communication device, wherein the customized GUI comprises placement of the plurality of services in a priority order defined by analyzing the usage history.

6. A system for customization of a Graphical user interface (GUI) of a communication device in a communication network*, the GUI being for use by a user to access a plurality of services provided by one or more of a communication service provider, a mobile network operator and a third party service provider*, the system comprising:

an analyzing module, in a communication service provider in the communication network, for analyzing a usage history corresponding to a plurality of services accessed from the communication service provider by a user of the communication device, wherein the usage history comprises at least one of a plurality of user interaction patterns corresponding to the plurality of services

accessed by the user and a plurality of user preferences corresponding to the plurality of services accessed by the user; and

a generating module for generating a customized GUI based on the analyzing of the usage history corresponding to the plurality of services accessed by the user, wherein the customized GUI comprises placement of the plurality of services in a priority order defined by analyzing the usage history.

34 The additional features specify the purpose of the GUI; that it is used to access a plurality of services provided by one or more of a communication service provider, a mobile network operator and a third party service provider. To my mind, the additional features only serve to make explicit that which is implicit in the claims originally under consideration.

35 Mr Openshaw also presented a second set of alternative independent claims 1 and 6 during the hearing in the event that the present and first alternative claims 1 and 6 were found to be excluded under section 1(2). They relate to a method for using a graphical user interface (second alternate claim 1) and communication apparatus comprising a communication device and a system for customization of a graphical user interface (second alternate claim 6).

Second alternate claims 1 and 6 read as follows (further changes italicised):

1. A method for *using* ~~customization of~~ a Graphical user interface (GUI) of a communication device in a communication network ~~the GUI being for use by a user~~ to access a plurality of services provided by one or more of a communication service provider, a mobile network operator and a third party service provider, the method comprising: *customizing the GUI, wherein customizing the GUI comprises:*

(i) analyzing, by a communication service provider in the communication network, a usage history corresponding to a plurality of services accessed from the communication service provider by a user of the communication device, wherein the usage history comprises at least one of a plurality of user interaction patterns corresponding to the plurality of services accessed by the user and a plurality of user preferences corresponding to the plurality of services accessed by the user; and

(ii) generating a customized GUI based on the analyzing of the usage history corresponding to the plurality of services accessed by the user of the communication device, wherein the customized GUI comprises placement of the plurality of services in a priority order defined by analyzing the usage history*; and the method further comprising: accessing the plurality of services using the customized GUI.*

6. *Communication apparatus comprising a communication device and* a system for customization of a Graphical user interface (GUI) of *the* ~~a~~ communication device in a communication network, the GUI being for use by a user to access a plurality of services provided by one or more of a communication service provider, a mobile network operator and a third party service provider, the system *for customization of the GUI* comprising:

(i) an analyzing module, in a communication service provider in the communication network, for analyzing a usage history corresponding to a plurality of services accessed from the communication service provider by a user of the communication device, wherein the usage history comprises at least one of a plurality of user interaction patterns corresponding to the plurality of services accessed by the user and a plurality of user preferences corresponding to the

plurality of services accessed by the user; and

(ii) a generating module for generating a customized *version of the* GUI of *the communication device* based on the analyzing of the usage history corresponding to the plurality of services accessed by the user, wherein the customized GUI comprises placement of the plurality of services in a priority order defined by analyzing the usage history.

36 These claims make it explicit that the plurality of services are actually accessed using the customized GUI of a communication device.

37 It is to the credit of both Mr Openshaw and the Examiner that the actual contribution identified above and considered in this decision reflects the features of the auxiliary claims. Of course the contribution discussed and agreed at the hearing was with the benefit of sight of the auxiliary claims. I do not construe the auxiliary claims so as to identify a different contribution. I therefore find that both sets of auxiliary claims also define an invention which in substance is excluded as a program for a computer and does not provide the required technical contribution.

Conclusion

38 In the light of my findings above, I conclude that the invention as claimed is excluded under section 1(2) because it relates solely to a program for a computer as such.

39 Having read the application I do not think that any saving amendment is possible. I therefore refuse the application under section 18(3).

Appeal

40 Any appeal must be lodged within 28 days.

Ben Buchanan
Deputy Director, acting for the Comptroller