BL O/184/06

3rd July 2006

PATENTS ACT 1977

APPLICANT British Telecommuncations plc

ISSUE Whether patent application GB 2 397 920 A relates to a patentable invention, and whether it involves an inventive step

HEARING OFFICER Stephen Probert

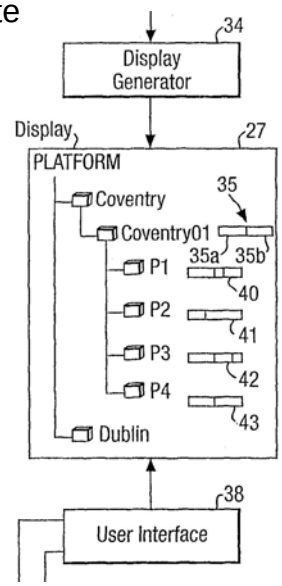
DECISION

1 This decision is about whether British Telecommunications plc should be granted a patent for a particular invention. The examiner has reported that the invention is a program for a computer and the presentation of information as such, and also that the invention does not involve an inventive step. The patent application has an earliest filing date of 9th November 2001.

2 Because the applicant and the examiner could not agree, a hearing took place before me on 2nd June 2006. The applicant was represented by Mr Roger Nash of BT Group's Intellectual Property Department. The examiner also attended in case I needed any assistance as to the examination process.

The Invention

3 The invention is a method of visually representing the state of a communications network on a display. As originally filed, the claims were directed to a method of visually representing ***data within a database***, but during the course of examination, the claims were narrowed by limiting the data in the database to data representing the state of a communications network.



4 The invention uses an expandable and collapsible tree structure (such as will be familiar to users of eg. Microsoft® Windows Explorer) in conjunction with one or more indication gauges to represent the state of components shown in the tree. The invention is conveniently illustrated in figure 4 of the specification, the relevant part of which is shown on the right.

The Claims

5 There are two independent claims in the application at present. Claim 1 is directed to a method, and claim 11 is directed to a system. For most purposes I can simply refer to claim 1, reproduced below, but there is one small difference in the wording of the opening paragraph of claim 11 that I shall refer to shortly when deciding how to construe the claims correctly, so the first part of claim 11 is also shown below.

> 1. A method of visually representing the state of a communications network including the step of generating on a display:
>
> i) an expandable and collapsible tree structure representing selected components of said communications network; and
>
> ii) concurrently with the tree, one or more indication gauges representing the state of respective selected components.
>
> 11. A display component of a network management system, said display visually representing the state of a communications network represented by a network management database, said display component including:
>
> .....

The Law

6 The examiner has reported that the application relates to a program for a computer and/or the presentation of information as such. This objection is based on section 1(2) of the Act, the essential parts of which are shown in bold below:

> **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 Mr Nash submitted that the primary case in this area of the law is *Fujitsu Limited's Application*[1], which clearly requires a technical contribution to avoid

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[1] *Fujitsu Limited's Application* [1997] RPC 14.

the exclusions of section 1(2). However, he very helpfully agreed that the most sensible way to follow *Fujitsu* is to use the same approach adopted by the Patents Court in several more recent cases, as exemplified in Mr Justice Pumfrey's judgment in *RiM v Inpro* [2] at paragraph 186:

> "186. It is now settled, at least at this level, that the right approach to the exclusions can be stated as follows. **Taking the claims correctly construed, what does the claimed invention contribute to the art outside excluded subject matter?** The test is a case-by-case test, and little or no benefit is to be gained by drawing analogies with other cases decided on different facts in relation to different inventions." (My emphasis)

8 The examiner has also reported that the invention does not involve an inventive step, as required by section 1(1). The parts of the act relevant to this objection are as follows:

> **1(1) A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say -**
>
> (a) the invention is new;
>
> **(b) it involves an inventive step;**
>
> (c) it is capable of industrial application;
>
> (d) the grant of a patent for it is not excluded by subsections (2) and (3) below;
>
> and references in this Act to a patentable invention shall be construed accordingly.
>
> **3. An invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms part of the state of the art** by virtue only of section 2(2) above (and disregarding section 2(3) above)**.**

(NB. In this case, nothing turns on the distinction between section 2(2) and (3).)

Applying the Law - Excluded Matter

9 Mr Nash submitted that the contribution this invention makes to the art is a display that enables a network administrator to quickly assess the state of communications equipment in a network so that, for example, he or she can quickly assess whether there is available capacity in the network to introduce new equipment or a new service. Being more specific, he accepted that it was known in general terms to provide a visual representation of the state of a communications network, but he maintained that features i) and ii) of claim 1 (the expandable/collapsible tree structure, and the indication gauges) were new features not seen before in the art.

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[2] *Inpro Licensing Sarl's Patent (Application for Revocation by Research in Motion* [2006] RPC 20

10 Mr Nash suggested that the invention was analogous to the instrument panel in a car, and he used the specific example of a speedometer to describe the function of the indication gauges in the display. This analogy caused me some difficulty at the hearing, because Mr Nash appeared to be suggesting that the invention operated in such a way as to display the state of the network in real time — ie. responding directly to changes in the network. My initial understanding of the invention, having read the specification before the hearing, was that the invention was concerned with visually representing data found in a database, and that in the particular embodiment of interest to the applicant, the data in the database would represent the state of various elements of a communications network. But in principle, or so it seemed to me, the data could equally well represent the stock levels on the shelves of a supermarket. For instance, in the same way that a network administrator would find it useful to have a visual representation of the number of used slots in a rack of equipment in the Coventry exchange, a supermarket stock manager would appreciate having a visual indication of how many turkeys are left on the shelves in the Sheffield store.

11 It is important to resolve this ambiguity in order to correctly construe the claims, as required by the first part of the test for patentability — see para 7 above. Mr Nash did try to persuade me that figure 4 shows an "Element Manager" EM17 that feeds information from the network directly into the database. I have looked more closely at this feature of the invention after the hearing because it might have been pivotal in the decision I have to make. In the event I have concluded that it does not assist. I do not doubt that it would be technically possible to automatically update a database in accordance with conditions prevailing in a network, but I am not persuaded that this is what the application, when read as a whole, teaches.

12 Moreover, even if I were to interpret the teaching of the application in the way that Mr Nash invited me, the very most that I could do is assume that this aspect of the operation of the invention (ie. *automatically updating the database so that it accurately reflects the state of components in a network*) must be well known to the person skilled in the art. That is because there is no enabling disclosure in the application to explain how such a feature could be provided.

13 But to my mind the matter is confirmed by the wording of the second independent claim, claim 11. This claim refers to "visually representing the state of a communications network represented by a network management database". Thus I have construed the claims as relating to an invention for displaying a visual representation of the data in a database. As amended, the claims are indeed limited to embodiments where the data in the database represents the state of a communications network, but I do not think that this imparts any technical advantage to the invention on my construction of the claims.

14 Consequently, returning to the test set out in paragraph 7 above, when the claim is properly construed, what the claimed invention contributes to the art is a way of visually representing data, using (in combination) an

expandable/collapsible tree structure, and indication gauges to represent the state of selected components of the data.

15 As far as I can see, this is the only possible contribution to the art that is made by the invention as described and claimed in this application. In my view it falls entirely within excluded subject matter — ie. presentation of information.

16 The examiner also reported that the invention was excluded from patentability on the grounds that it relates to a program for a computer as such. I can see what he means. There is no doubt that the invention is implemented using a computer program; that much is clear from the patent specification, and Mr Nash confirmed it at the hearing. Nevertheless, I do not think that the invention claimed in this application relates to computer programs as such. In other words, this is not an invention that concerns how a computer program should be written, or how a computer program operates in execution. Although a computer program is used, there is no contribution to the art in the field of computer programs. Rather it concerns a better, or more helpful, way of representing data to the eye; one that enables the human mind to assimilate the content of the data more quickly.

17 On this latter point, Mr Nash referred me to the judgment of Peter Prescott QC, sitting as deputy judge, in *CFPH* [3]. Talking about the "presentation of information" exclusion in section 1(2), the deputy judge says (paragraph 40):

> "The policy that lies behind this exclusion is stopping people from getting a monopoly to information as such. .... it does not prevent the patenting of a useful way of presenting information divorced from the particular information as such."

18 As Mr Nash put it, the applicant is not trying to get a monopoly to information as such. The actual information presented is not what is being claimed as the invention. What is being claimed, he submitted, is a useful way of presenting information. Whilst I entirely accept Mr Nash's characterisation of the invention, I do not follow this particular passage from the *CFPH* judgment; not simply because it is obiter dictum[4], but because, without further explanation, I cannot easily reconcile it with the wording of the Act which appears to exclude inventions relating to the presentation of information without, for example, any regard to how useful (or otherwise) they might be.

19 During the course of the hearing, Mr Nash also referred me to several interesting decisions of the EPO Boards of Appeal, the most relevant of which was T115/85 *IBM/Computer-related invention*. Mr Nash quoted the first paragraph of the headnote, which reads:

> "1. Giving visual indications automatically about conditions prevailing in an apparatus or system is basically a technical problem."

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[3] *CFPH LLC's Application* [2006] RPC 5 at page 259.

[4] Latin: "said in passing" - ie. not forming a necessary part of the court's decision.

20 The other decisions of the Boards of Appeal that Mr Nash quoted[5] confirm that the underlying principle that he was seeking to draw from the above *IBM* case is not an isolated instance, but was still being followed by the Boards of Appeal up to eighteen years later. The principle is one that I am quite willing to accept. That is to say, if the invention in this case concerned a method of giving visual indications ***automatically*** about the state of a communications network, then I would not have come to the conclusion that I have reached. But the invention in this case, as I have construed the claims, is not concerned with the technical problem of finding out what is going on in a network and displaying the status to a user. It is, as I have already said, about a better way of presenting information to the human eye. Consequently I did not consider that this line of authorities assisted Mr Nash's case.

Applying the Law - Inventive Step

21 In view of the decision I have reached in relation to excluded matter, there is no need for me to decide whether the invention involves an inventive step. However, Mr Nash did make some helpful submissions on the matter, so I shall deal with it as briefly as I can.

22 Mr Nash invited me to follow the four step test from the *Windsurfer* case[6]. The first step is to identify the claimed inventive concept. The second is to identify the common general knowledge known to a skilled but unimaginative addressee in the art at the priority date. The third step is to identify the differences, if any, between the matters cited as being "known or used" and the alleged invention. The final step is then to decide "whether, viewed without any knowledge of the alleged invention, those differences constitute steps which would have been obvious to the skilled man or whether they require any degree of invention".

Windsurfer - Step 1

23 I have already identified the claimed inventive concept in order to decide whether the invention relates to excluded matter. I concluded that it is a way of visually representing data, using (in combination) an expandable/collapsible tree structure, and indication gauges to represent the state of selected components of the data. That deals with the first step.

Windsurfer - Step 2

24 Considering the second step, three documents have been cited by the examiner as prior art, but only two were discussed at any length during the hearing. Both of them were published before the earliest date of the present application. They were:

US 6,101,500	"Lau"
US 6,216,134	"Heckerman et al"

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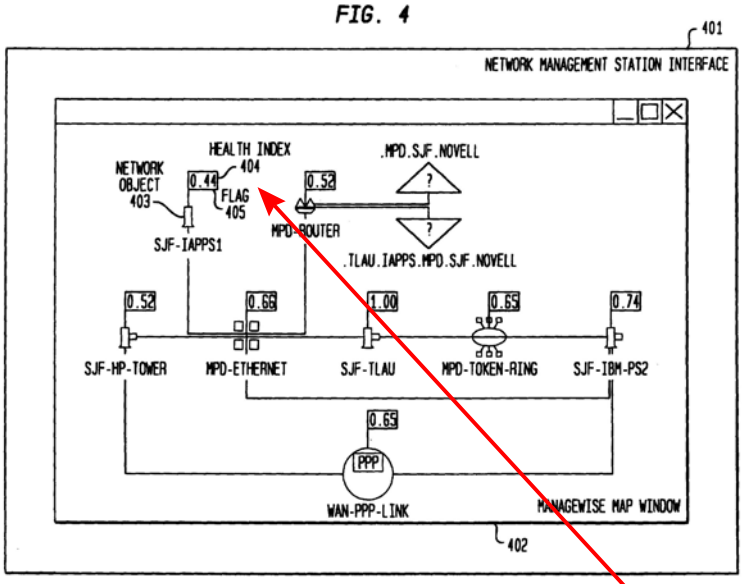
[5] *T 887/92 IBM/Online help facility*
T 643/00 Canon/Searching image data
T 49/04 Walker/Text Processor

[6] *Windsurfing International Inc. v Tabur Marine (Great Britain) Ltd*, [1985] RPC 59

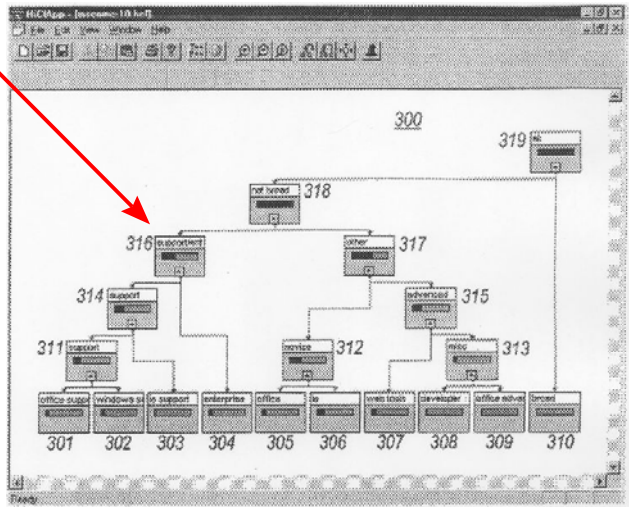
25 Mr Nash agreed that “Lau” was the closest prior art, since it concerns a system for managing a network, and involves displaying a ‘health’ index for various objects in the network. Figure 4 (below) from “Lau” conveniently shows the main highlights of that document.

FIG. 4



26 Each object in the network is provided with a health index (**404**) which is displayed as a flag. Each flag has a colour that indicates a level of one or more properties of the object with which it is associated.

27 The “Heckerman” document is concerned with the more general problem of visualising data. It does not deal specifically with communications networks, and therefore Mr Nash argued that I should regard it as being outside the knowledge of the skilled person. In his view, the “relevant art” is network management tools. However, I don’t think I should limit the extent of the skilled person’s knowledge quite so tightly. It seems reasonable to me that the skilled person in this instance would be aware of prior art concerning graphical user interfaces more generally, and I think Mr Nash would agree that “Heckerman” clearly falls into this category. Figure 3A of “Heckerman” (see below) illustrates the display of a hierarchical map in a tree format, with indication gauges associated with nodes in the tree.



28 “Heckerman” also teaches that the tree structure illustrated may be inverted, such that the “root node” is shown at the bottom of the display, or turned sideways with the root node at one side of the display and the “leaf nodes” at the other side.

29 I put it to Mr Nash (and he agreed) that, by the earliest filing date of his application, the use of expandable/collapsible tree structures (eg. such as in Microsoft ® Windows Explorer) would be very well known. I think the same must be true in the specific context of network administration; not least because it was by then well known to display a wide range of network resources in such displays.

Windsurfer - Step 3

30 The difference between the matters cited as being “known or used” and the alleged invention is the use of a particular style of gauge. It could be argued that the index flags in “Lau” are a form of indication gauge — not least because they change colour to represent different levels associated with various properties of objects in the display. But on reflection I accept Mr Nash’s submission that ...

> “ ‘gauge’ means something that runs from a low value to a high value, and there is something that physically moves on the display between those two limits, to show you what the value is visually and quickly. [For example,] a speedometer in a car is a gauge.”

31 Mr Nash impressed upon me that the display structure shown in figure 4 of “Lau” is a map, and not a tree, and therefore he regarded this as another difference. He submitted that it would not be obvious to turn the map into a tree because there is no clear hierarchy in the structure. To my mind, that is merely a function of the data being represented, and the relationship between the nodes in the network, rather than a fundamental difference. I note for example that the previous figure in “Lau” clearly shows a tree structure — albeit there are no index flags associated with the nodes of the tree. I note also that in relation to figure 4 of “Lau”, the specification teaches that users are able to select and expand particular objects in the display. That is why I have concluded that the difference (for the purpose of step 3) is the use of a particular style of gauge on the display of a network administration system.

Windsurfer - Step 4

32 The final step of the test is to decide whether (viewed without any knowledge of the alleged invention) the difference constitutes a step that would have been obvious to the skilled man or whether it required any degree of invention. Having regard to the established prior art, and in particular the disclosure of almost identical gauges in “Heckerman”, I have come to the conclusion that it would be obvious to use indication gauges in combination with an expandable/collapsible tree structure to visually represent the status of a communications network.

Conclusion

33 I have decided that the invention in this application is concerned solely with the presentation of information, and that as such it is excluded from patentability by section 1(2). I have also found that the invention as claimed does not involve an inventive step. I have read the whole application carefully, and I cannot see any amendment that would overcome these deficiencies. Consequently I refuse this application under section 18 on the grounds that it does not satisfy the requirements of section 1.

Appeal

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

S J Probert
Deputy Director acting for the Comptroller