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29th April 2004

PATENTS ACT 1977

APPLICANT

Fujitsu Limited

ISSUE

Whether patent application number GB
9921343.1 is excluded from being patentable
under section 1(2)

HEARING OFFICER

Mr A Bartlett

DECISION

Introduction

- 1 Patent Application No GB 9921343.1 entitled "System and method for home grocery shopping" was filed on 9 September 1999 and was published on 30 August 2000 as GB2347241. In the letter accompanying the search report, the search examiner observed that the invention may be unpatentable as relating to a method of doing business but deferred further consideration of that issue until substantive examination.
- 2 The first examination report was issued under section 18(3) on 30 December 2002. In it the substantive examiner objected that the claims were unclear. However, following amendment to overcome this objection, the examiner subsequently raised objection that the invention was excluded from being patentable as it was directed to a method for doing business and/or a program for a computer. The examiner maintained his objection following a further round of amendment and following an interview with the applicant's representative, Mr Timothy Stebbing of Haseltine Lake Patent and Trade Mark Attorneys on 10 December 2003. As further correspondence was unlikely to resolve this issue, the matter came before me at a hearing on 26 January 2004 where Mr Stebbing represented the applicant.
- 3 At the hearing I was asked to consider the patentability of a set of claims including claim 1 (a system claim) as discussed with the examiner at the interview held on 10 December, and a corresponding method claim. At the end of the hearing I asked Mr Stebbing to file formal copies in duplicate of those claims and amended pages of the description bringing the consistory clauses into line with those claims so that if I found the invention to be patentable, the application would be in order. Mr Stebbing has kindly complied with that request so the only outstanding issue is the patentability of the invention.

Background

- 4 During the various amendment rounds, the claims have undergone a significant shift in emphasis in an attempt to overcome the patentability objection. I shall come back to that, but for now I think it will be helpful to set out the basic concept of the invention identified and claimed in the application as filed.
- 5 As the title suggests, the invention concerns a system enabling customers to do their grocery shopping from home via the internet. The home shopping system is hosted on a grocery store's server which includes a database including information on all the products available to customers. These include standard items such as price, weight and volume of goods but also "environmental storage metrics" which indicate the conditions under which each item should be stored. In the embodiments described these are the categories "room temperature", "refrigerated" and "frozen". When a customer is placing an order online, a virtual shopping basket is displayed on their pc screen including an indication of the volume of items already selected in each of the storage categories. This allows the customer to see how large their order is getting thus avoiding problems such as not having enough freezer capacity when trying to store the goods at home.
- 6 The claims I have been asked to consider comprise independent claims 1 and 9 and dependent claims 2-8 and 10-16. At the hearing Mr Stebbing focussed his attention on the two independent claims which read as follows:

1. A goods handling system wherein goods, in the form of items of merchandise, are delivered from a store to any of a plurality of users in response to merchandise orders transmitted to a store server via personal computers of the plurality of users coupled to the communications network, the system comprising:

- means for warehousing the goods;
- a delivery vehicle for delivering the goods to the users, the vehicle providing a plurality of storage compartments each corresponding to a respective one of a plurality of environmental storage groupings;
- and a store server comprising:
 - means for storing a PLU table including merchandise item information, hosted on the store server, the PLU table including weight, size and environmental requirements indicia, each assigned to individual items of merchandise stocked by the store;
 - means for creating and updating a virtual shopping basket for each user, comprising an electronic storage area in which items selected for purchase are identified; and
 - means for organizing the items identified in the virtual shopping baskets in accordance with their weight, size and environmental requirements indicia, such that the contents of each virtual shopping basket may be arranged and viewed by the user for whom it was created in accordance with a weight, size or environmental requirements indicia selection, and such that the items of merchandise comprising each order are segregated into common environmental storage groupings for subsequent delivery of the items of merchandise in the respective storage compartments of the delivery vehicle.

9. A goods handling method wherein goods, in the form of items of merchandise, are delivered from a store to any of a plurality of users in response to merchandise orders transmitted to a store server via personal computers of the plurality of users coupled to the communications network, the method comprising the steps of:

- warehousing the goods;

storing on the store server a PLU table including merchandise item information, the PLU table including weight, size and environmental requirements indicia, each assigned to individual items of merchandise stocked by the store;

creating and updating a virtual shopping basket for each user, comprising an electronic storage area in which items selected for purchase are identified; and

organizing the items identified in the virtual shopping baskets in accordance with their weight, size and environmental requirements indicia, such that the contents of each virtual shopping basket may be arranged and viewed by the user for whom it was created in accordance with a weight, size or environmental requirements indicia selection;

segregating the items of merchandise comprising each order into common environmental storage groupings for subsequent delivery of the items of merchandise; and,

using a delivery vehicle providing a plurality of storage compartments each corresponding to a respective one of a plurality of environmental storage groupings, delivering the goods to the users in the respective storage compartments of the delivery vehicle.

- 7 Thus the claims I have been asked to consider put a good deal of emphasis on the delivery of the goods to the customer. This is in contrast to the application as filed which was more directed towards the presentation of information to a customer on goods they had already selected. Whilst I am satisfied that the application as originally filed supports the inclusion of these aspects in the claims, the shift in emphasis is significant in relation to the patentability of the invention, in particular through the problems the invention seeks to overcome. I will come back to that point later.

The Law

- 8 The examiner has maintained that the application is excluded from patentability under section 1(2)(c) of the Act, as relating to a method for doing business and a program for a computer as such. The relevant parts of this section read:

“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)

(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)

but the foregoing provision shall prevent anything from being treated as an invention for the purpose of this Act only to the extent that a patent or application for a patent relates to that thing as such.”

- 9 These provisions are designated in section 130(7) as being so framed as to have, as nearly as practicable, the same effect as Article 52 of the European Patent Convention, to which they correspond. In deciding whether the present invention is excluded I must therefore also have regard to the decisions of the European Boards of Appeal that have been issued under this Article.

Interpretation

- 10 At the hearing it became clear that there was a good deal of agreement between me and Mr Stebbing on the principles I should apply in deciding whether the present invention was patentable. That negates the need for me to explain those principles (and their origins) in depth but I shall summarise them here for completeness.
- 11 First, in deciding whether an invention is patentable, it is the substance of the invention that is of importance rather than the form of claims employed. Second, the effect of the final part of section 1(2) is that an invention is only excluded from being patentable as a method for doing business or a program for a computer if it amounts to one of those things “as such”. Following the decisions of the UK courts and the EPO boards of Appeal, an invention is not considered to relate to one of these things “as such” if the invention makes a technical contribution. Third, whether an invention makes a technical contribution is an issue to be decided on the facts of the individual case. Finally, the desirability of consistency between the Patent Office’s interpretation of the Patents Act 1977 and the EPO’s interpretation of the EPC was acknowledged. However, Mr Stebbing accepted that where there was a divergence between the interpretation given by the UK courts to section 1(2) and that given by the EPO to the EPC, I am bound to follow decisions of the UK courts.

Argument

- 12 Mr Stebbing accepted that the present invention contained aspects that could be viewed as being methods of doing business and/or a program for a computer. However he argued that that is not in itself a barrier to patentability. In support of his argument on this point, Mr Stebbing referred me to the decision of the European Patent Office Board of Appeal in *Sohei/General-purpose management system* [1996]EPOR 253 (T 769/92). That decision teaches that just because an applicant chooses to restrict his claims to use in an excluded area does not mean it relates to an excluded item as such. Moreover in its decision on *Koch and Sterzel* [1998] 1-2 OJEPO 19 (T26/86) the Board of Appeal decided that an invention is not excluded just because a claim contains a mix of excluded and non-excluded material. I am in complete agreement with Mr Stebbing on these points - an invention will not be excluded so long as it makes a technical contribution irrespective of whether the claim includes excluded features or can be used in an excluded field.
- 13 The crux of much of Mr Stebbing’s argument was that the present invention did not relate to those excluded items “as such” because it made the required technical contribution. That technical contribution was, he argued, provided in a number of ways and he used a number of earlier cases to support his assertions.
- 14 Recognising one potential obstacle to the patentability of the present invention, Mr Stebbing acknowledged that the application did not disclose automation of the process of retrieving items selected by the customer or of storing them in the appropriate part of the vehicle. Instead what it did was to provide instructions to a clerk for loading the delivery vehicle. However, he said, the fact that an invention required human

intervention was not a bar to obtaining patent protection. He argued that instructing humans or providing them with assistance could provide a technical contribution. To support his argument, Mr Stebbing referred me to *Lux Traffic Signals vs Pike Signals* [1993] RPC 107. One of the patents considered in that case concerned a traffic light control system wherein each set of lights in a system had a single inter-green timing control knob and the inter-green time between any two sets of lights was determined from the sum of the times set on the respective pair of control knobs. In upholding the validity of the patent, the court decided that the invention made a technical contribution through the provision of a single knob per set of lights to make operation of the system easier for an unskilled person. By analogy, Mr Stebbing said that by making it quicker and easier for a human operator to load goods ordered by a customer, the present invention also provided a technical contribution.

- 15 Mr Stebbing then referred me to a decision of the EPO Board of Appeal in relation to an application by *Kearney & Trecker Corporation* (T 0042/87) as further support for his argument that providing instructions for a human operator could make the required technical contribution. That application concerned a system for warning a human operator of the existence of conditions requiring his intervention, for example in relation to a machine tool. Manual intervention was required both to take preventative action and to select the language in which the warning was given. In deciding that the claimed invention solved a technical problem the Board decided that the case was closely analogous to an earlier case T 115/85 OJ EPO 7/1989 where it was decided that giving visual indications automatically about conditions prevailing in an apparatus or system is basically a technical problem. Mr Stebbing went on to say that organising items in the virtual shopping basket could be considered a technical feature as the resulting data can be used to give a message to a human operator and that, the environmental storage conditions in the present application were equivalent to the “conditions prevailing in an apparatus or system” in *Kearney*.
- 16 In a similar vein, Mr Stebbing referred me to the Board of Appeal decision on an application by *Broselow* (T 77/92). That case related to a measuring tape having special markings on it which provided information to assist the administration of a dose of drugs or a shock from a defibrillator. The properties of the tape were such that the need to refer to a separate table to transform patient size to a dosage or shock size was removed and with it sources of delay and or human error. The Board found that the advantages provided by the tape were technical in nature and made a technical contribution. Mr Stebbing argued that the present invention provided similar advantages.
- 17 Finally on this point, Mr Stebbing referred me to the Board of Appeal’s decision on an application by *WABCO* (T 362/90)¹. That application concerned a system to display the gear currently selected by the driver of a vehicle and the optimum gear given the prevailing driving conditions. The Board considered the generation and display of current and optimum conditions to be a technical task. Mr Stebbing put it to me that by analogy giving instructions to the store clerks about how goods should be stored was a technical problem.

¹ unreported but available at <http://legal.european-patent-office.org/dg3/biblio/t900362du1.htm>)

- 18 I have read all these decisions carefully but I do not think any of them provides much support for Mr Stebbing's case. I accept that the need for human intervention is not in itself a barrier to patentability. However, as Mr Stebbing acknowledged, whether an invention makes a technical contribution is something to be decided on the facts of each case. To my mind there is a world of difference between providing a device through which a user can adjust settings (as was the case in Lux) or a measuring tape graduated to show an appropriate dosage and the present invention where a packer is provided with information on storage requirements for each item in a customer's shopping order. Moreover, monitoring machine tool wear or the current and optimal condition for a vehicle transmission is an infinitely more technical area than internet shopping. I am at a loss to see how associating a piece of information on appropriate storage conditions with each item ordered by a customer can be said to provide a technical contribution.
- 19 Mr Stebbing also referred me to the Board of Appeal decision on *NAT Shipping Bagging Services* (T 0636/88). The attraction in so doing is obvious as soon as you consider the subject matter of that application - a system for distributing material involving various transportation and delivery aspects. More specifically, the invention defined in that application provides a method for bagging material delivered in bulk by ship to a local port. According to the claims, the bagging and weighing plant comprises a single, transportable module of standard container dimensions allowing it to be transported en bloc to another port. Thus the bagging plant is such that it can be transported easily to a port not permanently equipped with a bagging plant to facilitate the distribution of the material being shipped. One specific use for such a system would be to aid in the distribution of emergency food aid in developing countries lacking the necessary infrastructure. As pointed out by Mr Stebbing, in granting this patent, the Board of Appeal decided that the invention comprised patentable subject matter in that "the method defined in present claim 1 clearly has technical character in that it involves the use of technical equipment (the bagging plant) to achieve a technical end (the production of sealed, weighed bags of the material involved)." Having found the apparatus to be novel (more specifically to have "no counterpart in the prior art") the Board found the invention to be patentable.
- 20 In upholding the *NAT* patent, the Board acknowledged that the economic success of the invention owed much to the applicant having identified a particular niche market. That did not though, in the Board's opinion, detract from the technical character of the invention. As I said to Mr Stebbing at the hearing I agree entirely that just because an invention is founded on economic considerations does not render it unpatentable. Indeed, very many inventions are devised with economic issues in mind, for example with a view to finding cheaper or simpler ways to do something that has done before.
- 21 According to Mr Stebbing, the present system is analogous to the *NAT* invention. He argued that whilst there is a clear economic benefit in storing the goods under appropriate conditions, namely to reduce costly waste, the use of vehicles to deliver goods in a way that stops them spoiling is a technical result and that it follows that the invention is patentable.
- 22 I do not agree. Computers, servers and delivery vehicles are undoubtedly technical entities. Their inclusion in the claim gives the invention technical character, but that is

not the test I must apply. The proper test is that the invention must make a technical contribution. There is in my opinion, a fundamental difference between the invention deemed patentable by the Board of Appeal in *NAT* and the present one. In *NAT*, the technical means allowing the invention to be put into practice was found to be novel and that in my opinion is the source of technical contribution in that case. At the hearing, Mr Stebbing and I discussed in some detail the novelty/inventiveness of the present invention, in particular whether the delivery vehicle having separate temperature controlled storage compartments was novel. In processing the application the examiner's search did not uncover any prior disclosures of a vehicle having the required separate temperature compartments for delivering goods ordered over the internet. However, Mr Stebbing did not seek to assert that the novelty resided in the vehicle itself - there being general agreement at the hearing that such compartmentalised vehicles for delivering perishables were known at the priority date if in slightly different contexts. Indeed Mr Stebbing identified the novelty of the present invention as residing not in the vehicle having certain compartments but in providing data on the server to assist the storage of goods into those compartments.

- 23 To my mind that renders the facts of the present invention so far removed from the *NAT* invention that it is of very little value as precedent case law beyond the general principle I have already said I am in agreement with, namely that having an economic foundation does not render an invention unpatentable. Before moving on however, I do need to address the issue of the link between the virtual and physical environments which Mr Stebbing asserted provides the distinctiveness of the invention.
- 24 At the hearing Mr Stebbing tried to impress upon me the degree of interaction that exists between the virtual shopping basket part of the claim and the delivery aspect. He described the virtual shopping basket as being in "technical co-operation with the remainder of the claim, the reason being that data from the virtual shopping basket is used to provide the technical effect". In so doing, he sought to distinguish the present invention from those deemed unpatentable by the Court of Appeal in *Merrill Lynch Inc's application* [1989] RPC 561 and in *Fujitsu Limited's application* [1997] RPC 608. In both those applications, he said, there was no end result in the form of an effect on physical objects. Instead, those inventions were merely concerned with handling and displaying data. More specifically he said the invention of *Merrill Lynch* made it easier to trade securities and the claims were directed to displaying, transferring and storing data without effecting any physical objects. In *Fujitsu*, he said, the end result was merely the display of a crystal structure on a screen which was no more than a computer version of a plastic model of a molecule.
- 25 Whilst I agree that the facts of the present application are different from those existing in *Merrill Lynch* and *Fujitsu*, I am not persuaded that that makes the present invention patentable. At the hearing I reminded Mr Stebbing that in addition to refusing claims where the final step was the display of crystalline structures, the Court of Appeal in *Fujitsu* also rejected claims to the method of manufacturing a structure using the crystal visualisation technique. Mr Stebbing said he thought that the court's decision in this respect reflected the lack of support in that application for the manufacturing step. Whilst I agree that the *Fujitsu* application did not say much about the method of manufacture, likewise the present application does not say much about the storage and transportation of the selected goods. Whilst these aspects are disclosed, they are what I

would describe as peripheral features in the application as originally filed. For example, in the application as filed, goods selected by the customer do not have to be transported at all - they could be held at the store for the customer to pick them up. Moreover, even if they were transported to the customer, it was only a preferred option for the delivery vehicle to have separate temperature controlled compartments.

- 26 In my opinion, it seems far more likely that the lack of causality between the steps of viewing the image of crystals and manufacturing them was the reason why the Court of Appeal rejected the method of manufacture claims in *Fujitsu*. In his decision in *Fujitsu*, Aldous LJ refers with approval to the decision of the EPO Board of Appeal in *Vicom Systems Inc* [1987] 1 OJEP 14 (T 208/84). In a passage of that decision which I will come back to later, the Board drew a distinction between an excluded mathematical method and a technical process employing one. The Board said that an excluded mathematical method is one where an algorithm acts on a set of numbers to produce other numbers and that:

“No direct technical result is produced by the method as such.”

To my mind there was no causality between the two steps in *Fujitsu* and thus no direct technical result using the Board’s terminology in *Vicom*. To have allowed the method of manufacture claim would have been to extol form over substance.

- 27 In my opinion the present invention suffers from the same problem as the method of manufacture claim in *Fujitsu*. The claims are in two distinct parts. On the one hand we have parts designed to improve the customer’s shopping experience by providing a visual indication of how much produce requiring storage under room, refrigerator or freezer conditions have been selected. On the other we have the delivery of those goods in a vehicle adapted for the purpose. One does not follow on automatically from the other. Indeed there is no disclosure whatsoever of automated retrieval of the selected items and loading of the vehicle. That seems to be a purely manual process with stage one merely providing the information by which “clerks” retrieve the selected items and load the vehicle in stage 2. In the same way as allowing the method of manufacture claims in *Fujitsu* would have been to extol form over substance, I consider that to allow the claims on the present application would be to do just that.

- 28 Mr Stebbing also sought to convince me that the invention provided a technical contribution through the effect achieved. He said that the end result of the invention was the delivery of goods under appropriate environmental conditions. That, he said, was a real, tangible and technical outcome which provided the required technical contribution.

- 29 Such a real world application was, he said, precisely what made an otherwise excluded item patentable. Mr Stebbing said that the Board of Appeal’s decision in *Vicom* illustrated this point perfectly: whilst claims to a mathematical algorithm were not patentable, a claim to a method of enhancing an image using that algorithm were. He drew my attention to paragraph 5 of the “reasons for the decision” section of the *Vicom* decision which says:

“There can be little doubt that any processing operation on an electrical signal can be described in mathematical terms. The characteristic of a filter, for example can

be expressed in terms of a mathematical formula. A basic difference between a mathematical method and a technical process can be seen, however, in the fact that a mathematical method or a mathematical algorithm is carried out on numbers (whatever these may represent) and provides a result also in numerical form, the mathematical method or algorithm being only an abstract concept prescribing how to operate on the numbers. No direct technical result is produced by the method as such. In contrast thereto, if a mathematical method is used in a technical process, that process is carried out on a physical entity (which may be a material object but equally an image stored as an electric signal) by some technical means implementing the method and provides as a result some change in that entity. The technical means might include a computer comprising suitable hardware or an appropriately programmed general purpose computer.”

30 In Mr Stebbing’s opinion, this could be summarised as saying that technical means acting on a physical entity to cause a change in that entity defined a technical process (which was patentable). By analogy, he argued, the present invention was patentable as it too provided a technical process: the goods being delivered are physical entities, the store server is the technical means and the change in the entity is the delivery of those goods under appropriate conditions.

31 As I pointed out at the hearing, the precise nature of the technical contribution in *Vicom* has been the subject of a good deal of consideration. Indeed in his decision in *Fujitsu*, Aldous LJ said at page 615 line 49:

“The reasoning in *Vicom* as to what was the technical contribution is not easy to ascertain.”

32 However, Aldous LJ went on to say at page 616 line 9:

“In my view *Vicom* does not support the submission that claims to processing of real images are allowable. The technical contribution was not the fact that an image was being produced. It was the way the enhanced image was produced.”

33 Any generalisation as to the patentability of inventions involving the processing of images following *Vicom* must in my view be tempered with this qualification. I certainly do not see how *Vicom* supports an argument that the present invention is patentable. The server is undeniably a technical means (as is the delivery vehicle) and the goods delivered are undoubtedly physical entities. However, it is more than stretching things in my mind to say that delivering those goods is changing them in the way that the image was enhanced in *Vicom*.

34 At the hearing we discussed one further potential source of a technical contribution - the problem the invention seeks to overcome. As I have already said, the claims have undergone a significant shift in emphasis during the prosecution of the application such that they now include a good deal of detail regarding the storage and delivery aspects of the system where these were purely optional in the invention originally described. As I alluded to earlier, the application as filed was drafted with a view to overcoming problems associated with existing home shopping systems. In particular it was aimed at enabling a customer to visualise the quantity of shopping already ordered so that the

order did not exceed the customer's storage space. In my opinion this is not a technical problem but a business one. Solving it does not in itself provide a technical contribution. Moreover, I have been unable to identify any technical problem to be overcome by the invention in the way that that problem is solved.

- 35 I said earlier that Mr Stebbing and I were in agreement that what I must do is to determine the substance of the invention and decide whether that is patentable. Mr Stebbing impressed upon me that in doing that I could not ignore features of the claim. I have taken full account of all the constituent parts of the claimed invention, all of Mr Stebbing's submissions and the entire content of the application as filed. Whilst the claims now undoubtedly include technical features, in my view these do not in themselves provide any technical contribution. In my opinion, in substance the invention is a method for doing business and, as it is implemented in software, a program for computer. Moreover I have been unable to identify any technical contribution which the invention makes and therefore find the invention relates to those items "as such".
- 36 Furthermore, having read the specification in its entirety I can find nothing in it which could form the basis of a patentable invention.

Conclusion

- 37 I have found that the invention falls into the areas excluded from patentability as a method of doing business and a program for a computer. Moreover, I have found that the invention does not make the technical contribution required to make an otherwise excluded invention patentable. I therefore refuse the application under section 18(3) on the grounds that the invention claimed therein is excluded under section 1(2)(c).

Appeal

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

A Bartlett
Deputy Director acting for the Comptroller