Intellectual Property Office

BL O/151/14

11 April 2014

PATENTS ACT 1977

APPLICANT JDA Software Group, Inc.

ISSUE Whether patent application number GB1000865.4 complies with Section 1(2)(c)

HEARING OFFICER Phil Thorpe

DECISION

1 This decision concerns whether the invention set out in patent application GB1000865.4 relates to excluded matter. The examiner has maintained throughout the examination of this application that the claimed invention is excluded from patentability under section 1(2) of the Patents Act 1977 as a program for a computer and a method of doing business. The applicant has not been able to overcome the objections, despite amendments to the application.

2 The matter therefore came before me to make a decision on the papers.

The Patent Application

3 GB1000865.4 is entitled “System and method for providing buffer inventory profile in a discrete time supply chain planner using a nested bucketization structure”. It was filed on 20th January 2010 and has an earliest priority date of 20th January 2009. It was published on 21st July 2010 as GB 2467051 A.

4 The application relates to a computer implemented system for the management of a supply chain network. Specifically, data representing on-hand inventory at any point in a supply chain is held in a series of ‘nested buckets’ giving data at various levels of detail down to individual day/quantity pairs. This is illustrated in figure 2 of the patent shown below. The time horizon for the inventory profile is N. This is broken down into data for a number (which optimally is 3) of equal length nested “buckets” (220,230,240). Each of these buckets can if necessary be broken down to a further 3 nested buckets (250,260,270). This operation is repeated until the time interval covered by each bucket meets a predetermined target such as for example a day. Each bucket is populated with data relating to for example inventory on hand.

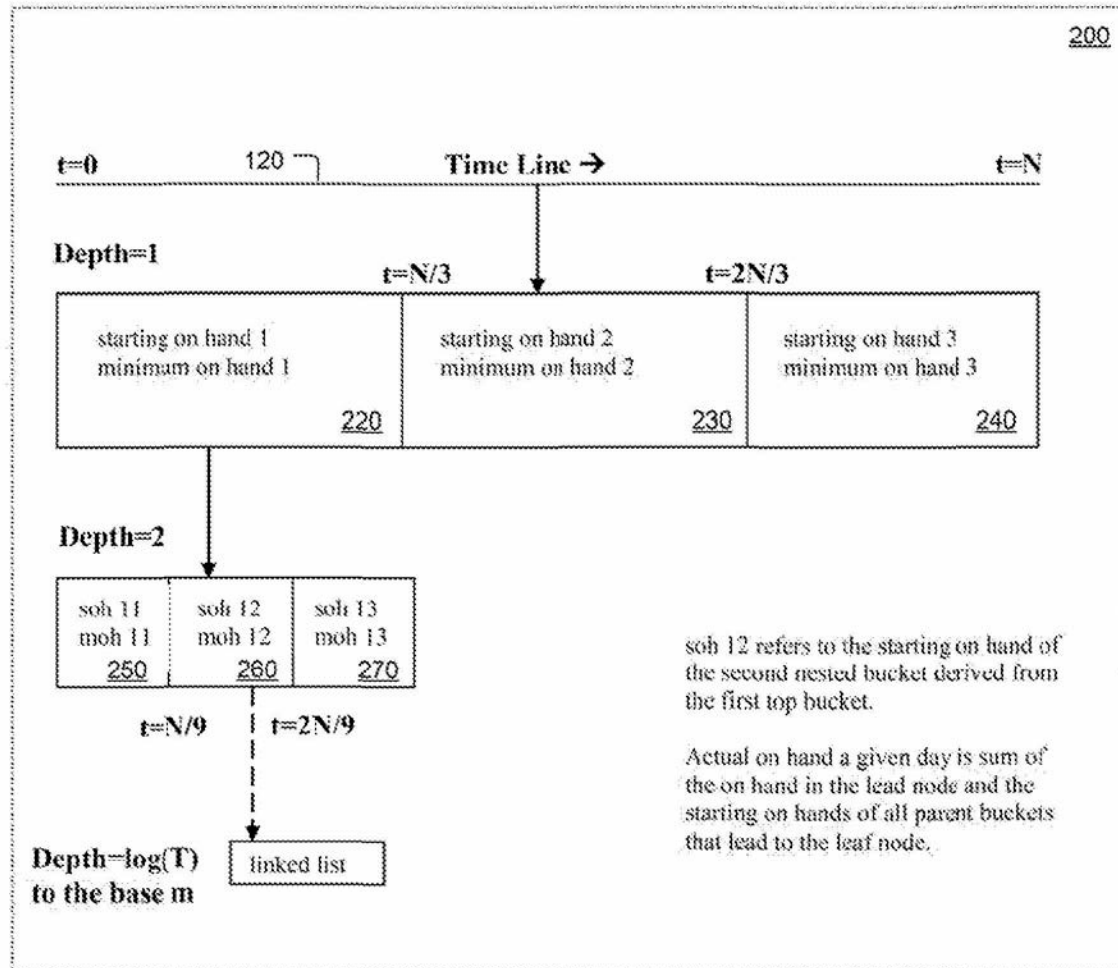

FIG. 2

5 According to the application, structuring the data in this way provides improvements in how the inventory is managed.

6 The claims on which this decision is based are those filed on 7th August 2013. Claim 1 reads as follows:

> A system arranged to process data within a supply chain network comprising:
>
> a database that stores data describing a time horizon of a specified time interval, wherein the time horizon is divided into a plurality of time buckets in which each time bucket is capable of being subdivided into further time buckets; and
>
> a server coupled with the database and configured to:
>
> access the data describing the time horizon of the specified time interval;
>
> create an on-hand inventory profile which comprises a set of pairs of data values, the first element of each pair representing a

day, and the second element of each pair representing a quantity wherein the on-hand inventory profile points to an empty linked list when first created; and

store the on-hand inventory profile in the database.

7 There are also independent claims (8 and 15) directed to a computer-implemented method and computer-readable medium embodied with software for implementing the method of claim 1. Neither the Applicant nor the Examiner have suggested these claims relate to separate inventions thus if Claim 1 is deemed to relate to excluded matter then it follows that claims 8 and 15 will also be excluded.

The law

8 The examiner has raised an objection under section 1(2) of the Patents Act 1977 that the invention is not patentable because it relates inter-alia to one or more categories of excluded matter. The 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) 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 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.*

9 As explained in the notice published by the UK Intellectual Property Office on 8th 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].

10 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

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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

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..

11 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.

12 The applicant does not question that this is the correct approach to follow.

Step 1 – Properly Construe the Claim

13 This step poses no difficulty as the claim is sufficiently clear.

Step 2 – Identify the actual contribution

14 The applicant suggests that the contribution lies in a new data structure that is easier to search and process thus improving the management of inventory. The examiner in contrast has argued that data structures having linked lists and hierarchical linked lists such as trees are well known and hence the contribution lies in the data being stored and the use to which the data structure is being put. Having carefully read the application I believe that the contribution set out by the examiner more accurately reflects what the inventor has added to human knowledge. I should add that in determining the contribution I have looked at the substance of the application rather than its form. This approach was confirmed in *Apple v. HTC*[5] which the applicant has referred me to.

Steps 3 & 4 - Does the contribution fall solely within excluded matter and is it actually technical in nature

15 The applicant argues that modifying how items are moved around a supply chain so as to make it more efficient is technical in nature. Hence the invention solves a technical problem. In addition even though the invention is implemented on a computer, it nevertheless generates a technical effect outside of the computer.

16 I am not persuaded. The use to which the invention is put may indeed lead to improved inventory management. For example if the inventory being managed is

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[4] *Merrill Lynch's Appn.* [1989] RPC 561
[5] *Apple Inc v. HTC Corp* [2013] EWCA Civ 451

perishable goods, then the invention may reduce waste. But it does this not by solving a technical problem inside or outside the computer. The problems associated with the business of managing inventory that the invention is addressed at are not in my opinion technical problems. Rather the invention is concerned with modifying how inventory data is stored and how it is then used to make inventory management decisions. The invention may well have an effect in the real world but that in itself does not make the invention patentable. The applicant refers to the decision in *AT&T/CVON*[6] in particular paragraph 25 which reads:

> 25 The point that the Board is making is that the computer output results in something happening in the real world, namely the giving of visual indications. The claim related to things going on inside the workings of the computer, rather than any form of data processing. It was that, I think, that led the Board to describe the claim as directed to use in the solution of a technical problem.

17 This paragraph, in particular the reference to something happening in the real world, must be read in the context of the invention at issue in that decision. I do not believe it was intended to have a broader meaning such that any invention that had a real world effect was patentable. Were that to be the case then practically nothing would be excluded under section 1(2). Rather what Lewison J was saying in my opinion was that the invention in the specific case being referred to, IBM (T115/85), was considered patentable because it solved a technical problem – that technical problem being the provision of a visual indication about events occurring in the input/output device of a text processor.

18 In this case the invention does not in my view solve a technical problem either within the computer or in the process being managed by the invention. Rather what the inventor has done is to develop a new way of breaking down inventory data using conventional data structures so as to better manage inventory. This does not provide a technical contribution and as such the invention is a program for a computer and also a method of doing business as such and is excluded under section 1(2).

19 I should for completeness respond to an observation made by the applicant as to the importance of the signposts provided in *AT&T/CVON*. The applicant queries whether the IPO is using these signposts as an exhaustive list into which the contribution provided by the invention must fall for it to be patentable. That is not the case. The examiners and hearing officers at the IPO fully recognise that these signposts merely provide guidance which can be useful in some instances to help determine whether an invention is patentable or not but that they are not necessarily determinative in every case. This is reflected in the IPO's Manual of Patent Practice[7].

Conclusion

20 I conclude that the invention as claimed is excluded under section 1(2) because it relates to a method of doing business and a computer program as such.

21 I have carefully read the specification and can find no saving amendment. I therefore refuse the application under Section 18(3).

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[6] *AT&T Knowledge Ventures/Cvon Ltd* [2009] EWHC 343 (Pat)
[7] See for example paragraph 1.37.2

Appeal

22 Any appeal must be lodged within 28 days

Phil Thorpe
Deputy Director, acting for the Comptroller