INTELLECTUAL PROPERTY OFFICE

BL O/409/10

29 November 2010

PATENTS ACT 1977

APPLICANT Advanced Forensic Solutions Limited

ISSUE Whether patent application number GB 0421284.1 complies with section 1(2)

HEARING OFFICER Joanne Pullen

DECISION

Introduction

1. Patent application number GB 0421284.1 was filed on 24th September 2004 without a claim for priority and was published as GB 2418499 on 29th March 2006.

2. During the course of examination the examiner raised objections including that the claims of the application were excluded from patentability under Section 1(2) Patents Act 1977 as a mental act, a method of doing business and a program, or programs, for a computer. Several rounds of correspondence were exchanged; however, the examiner was not satisfied that any amended claims submitted resulted in a patentable invention. The matter came before me to be decided which the applicant requested be taken on the papers.

3. The examiner has indicated that in the event that I decide the claims do relate to a patentable invention the file should be returned for further consideration of novelty, inventive step and the clarity of the claims. The examiner has also indicated, in the pre-hearing report to the applicant dated 9th August 2010, that claims 8 and 16 add matter and should be deleted although it would appear that these claims are supported by the text on page 18 at lines 7 to 9.

4. Also of note is European patent published as EP1800248 which designates GB. It is derived from PCT application number PCT/GB2005/003730 filed on 26th September 2005 (published as WO2006/032927) with a claim to priority from this application.

The application

5. The application is said to relate to information analysis arrangements and in particular to analysis arrangements utilised in order to identify unexpected links, risk and uncertainty in and between data in a data set. The application acknowledges the problems of time, scale and utility which are said to prevail in the analysis of even small data sets. The proposed invention uses a static model of the key relationships between the major information sets within a problem domain and the cardinality of these relationships; these are compared to threshold levels of legitimacy to generate an alert or warning. These alerts or warnings are starting points for knowledge discovery involving more detailed analysis of the identified individual cases.

6. The proposed arrangement and methodology can be utilised to provide an information analysis arrangement with respect to a wide range of situations such as insurance fraud or identity theft.

The claims

7. The most recent set of claims were filed with the agent's letter dated 27th July 2010. These amended claims include two independent claims numbered 1 and 9. These are directed to various aspects of the invention, namely an alert generator (claim 1) and a method of alert generation (claim 9).

8. If I find that claim 1 passes or fails the requirements of the Section 1(2) then, due to the nature of the claims, it follows that a similar finding must also apply to claim 9.

9. Claim 1 reads:

> *1 An alert generator comprising a processor and a memory storage device incorporating instructions which when uploaded into the processor device enable performance of:*
> *collecting of information comprised of many different variables;*
> *defining constraints that govern the generation of a hierarchical network of clusters from the information;*
> *generating an optimised hierarchical network of clusters that meet the constraints by repeatedly generating and testing different hierarchical networks of clusters by repeatedly:*
> *generating, at a first hierarchical level in the hierarchical network of clusters, clusters and generating at a next lowest level in the hierarchical network of clusters, a number of smaller clusters as sub-sets of a respective cluster;*
> *repeatedly generating, at a next lowest level in the hierarchical network of clusters, a number of smaller clusters as sub-sets of a respective sub-cluster;*
> *if the defined constraints cannot be met, abandoning the hierarchical network of clusters as a viable hierarchy of*

optimised clusters;
if the defined constraints are met, saving the hierarchical network of clusters as a viable hierarchy of optimised clusters;
selecting from the saved viable hierarchy of optimised clusters a most appropriate hierarchical network of clusters;
receiving further information by recording, through digital technology, a telephone number used to make contact and using the further information to update the selected hierarchical network of clusters;
assessing the selected hierarchical network of clusters to produce a warning or an alert.

The Law

10. The examiner raised an objection under section 1(2)(c) of the Patents Act 1977 that the invention is not patentable because it relates to a mental act, a business method and/or computer program as such; the relevant provisions of this section of the Act are shown 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.

11. As explained in the notice published by the UK Intellectual Property Office on 8th December 2008, 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[1].

12. The interpretation of section 1(2) has been considered by the Court of Appeal in Symbian Ltd's Application[2]. 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 approach. The

[1] Aerotel Ltd v Telco Holdings Ltd (and others) and Macrossan's Application [2007] R.P.C. 7
[2] Symbian Ltd's Application [2008] EWCA Civ 1066

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[3] 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.

13. Subject to the clarification provided by Symbian, it is therefore still appropriate for me 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
> 3) Ask whether the identified contribution falls solely within the excluded matter
> 4) Check whether the actual or alleged contribution is actually technical in nature.

Analysis

Construing claim 1

14. The examiner appears to have some reservations as to the meaning of the claims but has nevertheless concluded that the construction is clear enough to proceed with the test without highlighting any specific problems. The applicant, as outlined on page 3 of his representative's letter of 27th July 2010, does not take issue with the way the examiner has construed the claims.

15. The applicant appears to place some importance on the generation of an 'alert' or 'warning' in the wording of the claim. For the most part the construction of the claims is straightforward, however the terms 'alert' and 'warning' are commonly associated with the identification of danger of some form. As the claim does not specify how, when, what or why the alert/warning is produced, these terms appear, as a matter of substance, to relate to nothing more than a way of presenting the information generated by the computer in response to the performance enabled by the instructions claimed. I do not believe that a narrower construction of these terms in light of the specific embodiments given in the application is appropriate or likely to change the outcome of this test.

Identifying the actual contribution

[3] Merrill Lynch's Application [1989] R.P.C. 561

16. At paragraph 43 of the Aerotel/Macrossan judgment, Jacob LJ describes step 2 as being essentially a matter of determining what it is – as a matter of substance not form – that the inventor has really added to human knowledge. He also accepted that the test "is an exercise in judgment probably involving the problem to be solved, how the invention works, what its advantages are".

17. The examiner contends that the actual contribution lies in assessing a relational data structure (i.e. the hierarchical network of clusters) to produce a warning or alert as an indication of a likelihood that a condition prevails for a data relationship and that further analysis is required. The applicant's representative disagrees with this assessment and has instead proposed that the actual contribution lies in a program which makes a computer operate to process inputs from a telecommunication system to secure a service by raising warnings/alerts.

18. Neither of these proposals seems to get to the heart of the problems which the invention seeks to overcome. These are identified in the description:

> On page 15, lines 31-34 'The particular problem when identifying irregular connections in a database is generally the size of that database but potentially more significantly the nebulous nature of potential irregularities which require further investigation'
>
> On page 2, lines 10 -12 'What is required is an analytical tool which generates meaningful clusters of information rather than individual items of information'
>
> And on page 30, lines 8-9 'the range of potential detailed investigation is reduced to a manageable level for the resources available.'

19. These problems can be summarised as the scale of the analysis, the limited resources available for detailed analysis and producing meaningful results from the analysis.

20. The invention works by using a computer system running a program for 'identifying unusual or irregular links… as a basis for more clearly identifying those transactions… which require further in depth interrogatory analysis rather than passive analysis…' see page 32 of the description lines 4-7.

21. The benefits include targeted use of resources as 'there are limited resources available for such interrogatory analysis and…such resources can be more accurately and therefore more effectively employed to identify irregular or fraudulent activity' as outlined on page 32 of the description lines 8-11.

22. In order to attempt to overcome the patentability objections raised by the examiner the applicant has amended his claims from the original method

or information arrangement for ‘identifying irregular or fraudulent links in a dataset’ to the current ‘alert generator’ which assesses ‘the selected hierarchical network of clusters to produce a warning or an alert’. While these amendments have the effect of altering the form of the claim I am of the opinion that the substance of what has been added to the sum of human knowledge remains the same.

23. To my mind the actual contribution lies in a program which makes a computer operate to process a collection of data, including, amongst other data, contact telephone numbers, to generate an optimized hierarchical network of clusters according to defined constraints, each cluster containing a set of closely related data entities and to assess the resulting hierarchical network of clusters in order to perform an analysis and subsequently present results which meet a set of predetermined criteria.

Does the identified contribution fall within the excluded matter and is it technical in nature?

24. The contribution, as identified above, falls within the excluded field as it appears to be a computer program which analyses a data set to produce information about the data set.

25. That the form of claim specifies the information produced as being an ‘alert’ or a ‘warning’ does not render the contribution technical. The alert or warning is the desired means of presenting information upon which further action could be taken as the ‘warnings and alerts provide an excellent starting points for knowledge discovery’ se page 25 lines 18 and 19. Thus, the presentation of information from the analysis in the form of warnings or alerts does not in itself prevent or discourage undesirable activities in terms of insurance fraud or identity theft.

26. The applicant’s representative has placed an emphasis on telephone numbers constituting technical information. The use of conventional network interrogation techniques to include actual contact telephone numbers in the data set which is subject to the analysis of the program forming the contribution also does not render the contribution technical in nature.

Conclusion

27. I have found that the invention defined in the current claims is excluded as a computer program under Section 1(2)(c).

28. The examiner has also argued that the invention is excluded as a mental act and as a method of doing business. However, having found the invention to be excluded as a computer program, I have no need to decide these issues.

29. Having read the specification I do not think that any saving amendments are possible. I therefore refuse the application under Section 18(3).

Appeal

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

J Pullen
Deputy Director acting for the Comptroller