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PATENTS ACT 1977

APPLICANT	Logined B.V
ISSUE	Whether patent application GB0822335.6 complies with Section 1(2)
HEARING OFFICER	Phil Thorpe

DECISION

Introduction

1. This decision concerns whether the invention set out in patent application GB0822335.6 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, a method of doing business and as the presentation of information. The applicant has not been able to overcome the objections, despite amendments to the application.

2. The matter has therefore come before me to decide on the basis of the arguments that the applicant has already submitted to the examiner.

The Patent

3. GB0822335.6 was filed as a PCT application on 11 May 2007 with a claim to priority of 11 May 2006. The application entered the national phase and was subsequently reprinted as GB 2453066 A on 25 March 2009.

4. The application relates to a method of generating a “decision tree” to show the decisions taken as well as other factors considered when modeling the performance of oil reservoirs.

5. According to the description modeling reservoir performance can get very complex, both in terms of the amount of data manipulated and the decisions made along the way. Typically, in existing applications, it is difficult to visualise the decisions and their implications for the result, particularly when uncertainties and probabilities are factored into the calculations. Decision trees, which are generated directly and automatically, can be very useful to

represent, in a simple and graphic manner: (1) the 'decisions made', (2) the 'probabilities', and (3) the 'estimated value of those decisions'.

6. The latest claims are those filed on 28 October 2011. These include only three claims which read as follows:

> 1. A computer implemented method of generating a decision tree representing a plurality of seismic to simulation workflows, comprising:
>
> receiving a plurality of modelling scenarios representing a corresponding plurality of workflows, each workflow including a seismic element, a structure element, a 3D grid element, a 3D properties element, a wells element, a contacts element, a flow simulations element and a value element;
>
> selecting a calculation engine adapted for calculating a value measure;
>
> selecting a case as a base case in accordance with the selected calculation engine;
>
> generating a list of indicators;
>
> selecting a primary value measure from said list of indicators;
>
> selecting a secondary value measure from said list of indicators;
>
> setting a set of decision criteria, and
>
> calculating and generating said decision tree in response to said plurality of modelling scenarios and in response to the setting step on the condition that the calculation engine and said case and said primary value measure and said secondary value measure value are selected.
>
> 2. A program storage device readable by a machine tangibly embodying a program of instructions executable by the machine to perform method steps for generating a decision tree in accordance with the method of claim 1.
>
> 3. A system adapted for generating a decision tree representing a plurality of seismic to simulation workflows, each workflow including a seismic element, a structure element, a 3D grid element, a 3D properties element, a wells element, a contacts element, a flow simulations element and a value element, the system comprising:
>
> first apparatus adapted for receiving a plurality of modeling scenarios representing a corresponding plurality of workflows; and
>
> second apparatus adapted for generating and displaying a decision tree in response to said plurality of modeling scenarios, wherein the second apparatus comprises:
> apparatus adapted for selecting a calculation engine adapted for calculating a value measure;
>
> apparatus adapted for selecting a case as a base case in accordance with the selected calculation engine;
> apparatus adapted for generating a list of indicators;
> apparatus adapted for selecting a primary value measure from said list of indicators; and apparatus adapted for selecting a secondary value measure from said list of indicators; apparatus adapted for setting a set of decision criteria;

wherein the system calculates and generates said decision tree in response to said plurality of modeling scenarios and in response to the setting step on the condition that the calculation engine and said case and said primary value measure and said secondary value measure value are selected.

The Law

7. 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) …..*
> *(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.*

8. 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].

9. The interpretation of section 1(2) has been considered by the Court of Appeal in *Symbian Ltd's Application*[3]. *Symbian* arose under the computer program exclusion, but as with its previous decision in *Aerotel,* 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 Court was quite clear (see paragraphs 8-15) that the structured four-step approach to the question in *Aerotel* 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.

10. 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

[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]
[3] Symbian Ltd v Comptroller-General of Patents, [2009] RPC 1
[4] Merrill Lynch's Application [1989] RPC 561

paragraphs 40-48 of *Aerotel* namely:

> 1) Properly construe the claim.
>
> 2) Identify the actual contribution.
>
> 3) Ask whether it falls solely within the excluded matter, which (see paragraph 45) is merely an expression of the "as such" qualification of section 1(2).
>
> 4) If the third step has not covered it, check whether the actual or alleged contribution is actually technical.

11. I would add also that the Court in *Aerotel* made it clear that the excluded categories are not exceptions to what is patentable, rather section 1(2) sets out positive categories of things which are not to be regarded as inventions. Accordingly the general UK and European principle of statutory interpretation that exceptions should be construed narrowly does not apply to them. I say this because the applicant has argued that, in light of the recent decision in *Halliburton's Applications*[5], the exclusions from patentability are to be interpreted narrowly. I do not believe that this is at all what that judgement says. What was found in *Halliburton* was that the "mental act" exclusion was not as wide as the hearing officer in that case, who happened to be me, thought. I do not believe that judgement went any further than clarifying the scope of that particular exclusion.

12. I turn now to applying the law to the facts of this case.

Step 1 - Properly construe the claim

13. There is no issue regarding the construction of the claims.

Step 2 - Identify the actual contribution

14. As is often the case, the real dispute is about identifying the actual contribution. Before I turn to the actual contribution in this instance it is I believe useful to reiterate that in *Aerotel*, the Court of Appeal sought to provide guidance on how the actual contribution should be identified. It noted that:

> "It is an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are. What has the inventor really added to human knowledge perhaps best sums up the exercise."

15. The applicant argues that the invention provides an improved way to analyse seismic data relating to a reservoir. More specifically it enables a user to select a variety of ways of analysing the data and to better understand the

[5] Halliburton's Applications [2011] EWHC 2508 (Pat)

effect of his selections on the output of the analysis. It goes on to argue that the invention relates to a real world application in that it is based on initial seismic data.

16. I accept that the process of analysing data and simulating reservoirs is likely to be improved if the invention is used. However that improvement stems from an improved tool for performing the analysis of the data. There is so far as I can see no new technical analysis of the data itself. The process of analysing the data in each scenario seems entirely conventional. The improvement comes rather from how information about the impact of the decisions taken by the user undertaking the analysis is fed back to the user through the use of a decision tree.

17. The presentation of this “decision tree” relates in my opinion to the presentation of information. Does the contribution relate solely to the presentation of information? The claims as they are currently worded include steps that are more than the presentation of invention. For example they include various steps where selections or decisions are made. However having read the specification a number of times I can find nothing to indicate that there is anything that is not entirely conventional in any of these steps either when considered on their own or when combined in the way now claimed. Hence in my opinion what the invention has contributed, or in other words what it has really added to human knowledge, is an improved way of presenting information – that information being a representation in an easier to follow format of the various decisions made and the impact of those decisions on the end result.

Step 3 - Does the contribution fall solely within excluded matter

18. I believe that the invention is excluded from patentability as the presentation of information by virtue of section 1(2)(d). In addition since the invention is clearly implemented by a computer program I must also find it is excluded as a computer program under section 1(2)(c).

19. The examiner has maintained that the invention is also excluded as a method of doing business. He has based this objection I believe on a broader interpretation of the contribution than I have adopted above. I am not however convinced that even with this broader interpretation it would be covered by the business method exclusion.

20. If I am wrong about the full extent of the contribution, for example if it includes some or all of the steps for generating the decision tree set out in the method of claim 1, then I would still consider the invention excluded as a computer program. This is because the program, which is clearly at the heart of the method, does not in my opinion solve a technical problem within the computer nor would it have a technical effect on a process carried on outside the computer. The effect of any contribution, even in its broadest form, would extend only as far as generating for the user a decision tree showing the effects of his decisions. That is not a technical contribution in the sense

required to take it outside of the exclusion in section 1(2)(c) even if those decisions relate to the analysis of seismic data.

Step 4 – Check whether the contribution is actually technical in nature

21. I have already considered this in step 3.

Conclusion

22. I conclude that the invention as claimed is excluded under section 1(2) because it relates to the presentation of information and to a computer program as such. Having read the specification I do not think that any saving amendment is possible. I therefore refuse the application under section 18(3).

Appeal

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

PHIL THORPE