Intellectual Property Office

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PATENTS ACT 1977

APPLICANT	The Boeing Company
ISSUE	Whether the invention defined in GB1207284.9 relates to subject matter that is excluded under section 1(2)(c) as a business method and/or program for a computer as such.
HEARING OFFICER	A Bartlett

DECISION

Introduction

1 This decision addresses the issue of whether the invention claimed in GB1207284.9 relates to subject matter that is excluded under section 1(2)(c) as a method of doing business and/or program for a computer *as such*.

2 The application is titled 'Fuel delivery cost estimation system' and was filed in the name of The Boeing Company on 25 April 2012 claiming a priority date of 25 April 2011. It was published as GB 2490415 on 31 October 2012.

3 The application has been through numerous rounds of substantive examination and amendment where the Applicants (via their attorneys Kilburn & Strode) have been unable to persuade the examiner that the invention relates to patentable subject matter. Having reached an impasse, the Applicants declined the opportunity to attend a hearing and consequently the application has been forwarded to me to decide "on the papers".

4 I confirm in reaching my decision that I have considered all the correspondence on file.

The application

5 The application discloses a computer based system and method for estimating the cost of moving fuel from one location to another using vehicles and associated personnel and which allows a user to assess the impact of adjusting the resources used. The claims under consideration are those filed on 1 August 2014. Those claims number 12 in total of which claim 1 is the only independent claim. The examiner and Applicants have focussed their attention on claim 1 and there is no suggestion in any of the correspondence that different considerations apply to any of

the other claims. I too will focus on claim 1 before considering the remainder of the specification if necessary. It reads:

1. A system for forming a new vehicle comprising:

a communications unit (1610) that provides communications via physical and wireless communications links;

an input/output bus that allows input and output of data configured to transfer the data between different components and devices including memory (1606) and
persistent storage (1608) attached thereto;

a group of vehicles (130) identified by a user input (122) through a connection to the input/output bus for moving fuel (102) from a starting location (104) to a destination location (106) that identify operations (131) for moving the fuel (102)); and

a set of additional vehicles (134) for the group of vehicles (130) identified by the user input (122) to form a current group of vehicles (140), the current group of vehicles including a vehicle under consideration;
identify personnel (137) for the current group of vehicles (140), and identify a cost (110) for moving the fuel (102) from the starting location (104) to the
destination location (106); the cost includes a cost for the vehicle under consideration; using the current group of vehicles (140) and the personnel (137); and

an interactive graphical user interface containing display fields, the interactive graphical user interface allowing a user to enter input into the display fields;

an analysis module associated with the processor, which determines whether the user input meets vehicle ability parameters and safety requirements, the analysis
module further configured to warn the user when the user input fails to meet vehicle ability parameters or safety requirements;

a vehicle group module generating a vehicle group interface for display in the graphical user interface, the vehicle group interface displaying potential vehicles
to the user on the vehicle group interface in the graphical user interface, the vehicle group module forming groups of vehicles in response to receiving the
user input; and

a new vehicle module displaying a new vehicle interface in the graphical user interface, the new vehicle module receiving user input consisting of identifying information about a new vehicle;

and forming the new vehicle from the user input in the fields for the new vehicle;

the identifying information including at least one of the group consisting of a fuel burn rate, a cost of maintenance, a weight of raw vehicle, a standard number of personnel needed to operate the new vehicle, and a cost for needed personnel.

The Law

6 Section 1(2) of the Patents Act 1977 sets out various things are not considered to be inventions for the purposes of the Act. It reads:

"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 purposes of this Act only to the extent that a patent or application for a patent relates to that thing as such."

7 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. I must therefore also have regard to the decisions of the European Patent Office Boards of Appeal that have been issued under this Article in deciding whether the present invention is patentable although I am not bound to follow them.

8 These provisions have been the subject of regular consideration by the UK courts. The assessment of patentability under section 1(2) is governed by the judgment of the Court of Appeal in *Aerotel*[1]*,* as further interpreted by its judgment in *Symbian*[2]*.* In *Aerotel*, the court reviewed the case law on the interpretation of section 1(2) and approved a four-step test for the assessment of "excluded matter". Those steps are:

i. properly construe the claim:

ii. identify the actual contribution;

iii. ask whether the identified contribution falls solely within the excluded subject matter;

iv. check whether the actual or alleged contribution is actually technical in nature.

9 In its judgment in *Symbian* the Court made clear that the *Aerotel* test is not intended to provide a departure from the previous requirement set out in case law, namely that the invention must provide a "technical contribution" if it is not to fall within excluded matter. Thus in deciding whether the invention is excluded as a program for a computer *as such* I must ask whether it makes a technical contribution (though it does not matter whether I do that at step 3 or step 4).

10 The Courts have also provided additional guidance as to what constitutes a "technical contribution" in the form of the "AT&T signposts" which in their latest form[3] read as follows:

i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer;
ii) whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run;
iii) whether the claimed technical effect results in the computer being made to operate in a new way;

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[1] *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371, [2007] RPC 7
[2] *Symbian Ltd's Application* [2008] EWCA Civ 1066, [2009] RPC 1
[3] As modified by the Court of Appeal in HTC Europe Co. Ltd. V Apple Inc. [2013] RPC 30

iv) whether a program makes a computer a better computer in the sense of running more efficiently and effectively as a computer
v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.

11 In assessing whether the current invention is excluded or not, I will follow the *Aerotel* approach and use the signposts to assist in identifying any technical contribution.

Applying the Aerotel test

12 Step 1 of the *Aerotel* test requires me to properly construe the claim. That is not straightforward in the present case. The format of the claims has been changed significantly during the prosecution of the case as the Applicants have attempted to overcome the excluded matter objections reported by the examiner. As presently drafted, claim 1 defines a "system for forming a new vehicle" and then proceeds to define that system in terms of a combination of computing/communications hardware, groups of vehicles, a user interface (by which the user can select various options for the fuel transfer task), various software modules (for assessing the user input, facilitating creation of a user selected group of vehicles for the task from existing vehicles and another for allowing the user to specify a new vehicle), the step of "forming" that new vehicle and finally some options for the characteristics of the new vehicle. The invention also involves the calculation of an estimate of the cost of completing the task given the vehicles involved and associated personnel. It is not immediately apparent from the claim as presently drafted where that step is performed though from the specification as a whole I take it that is performed by another software module. In short claim 1 is something of a mess albeit that examination of aspects such as clarity, support, novelty and inventive step have been deferred pending resolution of the excluded matter issue. One significant point to note however is that even though the claim is framed as a "system for forming a new vehicle" , the invention stops well short of involving any manufacturing steps which the normal meaning of the word "forming" might imply. At most the system allows an operator to specify design characteristics that a new vehicle should possess to fulfil a particular fuel delivery task and the creation of an associated data file.

13 Moving on to step 2, guidance on how to identify the contribution is given in paragraph 43 of the *Aerotel* judgment where the court accepted the proposition that identifying the contribution 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 excercise. The formulation involves looking at substance not form – which is surely what the legislator intended'.

14 As the format of the claims has shifted in the course of prosecution (claim 1 was originally cast as "a method for estimating a cost for moving fuel") so has the Applicants' characterisation of the contribution. Indeed, their Attorney has suggested that the contribution lies variously in optimising the variables in the movement of fuel from a starting location to a destination location, the selection of a vehicle dependent on a number of physical variables associated with the vehicle itself, the provision of an analysis module which is configured to warn the user if a user input fails to meet the vehicle ability parameters or safety requirements and

finally how that analysis module works with a graphical user interface to receive and output vehicle information to a user.

15 So what has the inventor added to human knowledge in this case? As noted above, despite being framed as a "system for forming a new vehicle", the invention of claim 1 does not involve any manufacturing steps. Indeed, defining the invention as a system for "forming a vehicle" is a clear attempt to elevate form over substance and in my view does not accurately characterise the invention. Second, the contribution clearly does not reside in the groups of unspecified vehicles employed. Third, from reading the specification in its entirety, it is clear that there is nothing to suggest that the computing and communication hardware through which the invention is implemented is anything other than conventional. It is clear to me that any contribution resides in the functionality that that hardware is programmed to perform.

16 In my view what the inventor has contributed is a tool including a graphical user interface (GUI) for enabling an operator to estimate the costs involved in using various combinations of vehicles and associated personnel to move a quantity of fuel from one location to another including, if necessary, specifying design options for new vehicles to help perform the task, which tool is configured (according to claim 1) to warn the user if the user input does not meet vehicle ability parameters and safety requirements.

17 Step 3 requires me to determine whether that contribution falls solely within excluded subject matter. Addressing that issue, in the latter rounds of correspondence the Attorney has placed great emphasis on the "warning" function that the invention is configured to perform. This she argued was equivalent to the monitoring and alarm features of the invention in *PKTWO*[4] and rendered the present invention patentable. I do not agree. In his judgment in *PKTWO*, Floyd J. found that in the very specific facts in that case, the contribution the invention made was an improved system for monitoring the content of electronic communications and was not excluded. The present invention is directed to a very different problem - how to transport fuel most cost effectively between two locations.

18 Moreover, the disclosure of the "warning" feature now relied upon in present claim 1 is extremely limited – the feature is only obliquely mentioned by inference in the original specification in relation to whether user inputs meet "policy rules" including "regulations, requirements, safety requirements, and/or other suitable criteria for performing mission". Indeed no words such as "alarm", "warning" or "notify" are mentioned in the specification as originally filed. As far as I can determine any "warning" function provided in the present invention is more an input verification step and thus very different from the sort of alarm generating function that was at the heart of the invention in *PKTWO*. Thus this case is very different from *PKTWO* on the facts and I certainly do not consider the "warning" step of claim 1 to provide the technical effect required to make a computer program patentable.

19 In my view the contribution made by the invention falls squarely in excluded matter as a computer implemented business method. The task that is performed by the computer program – identifying the most cost effective way to transport fuel between

[4] *Protecting Kids the World Over* [2011] EWHC 2720 (PAT) (PKTWO)

locations – is a logistical activity of the sort found to be excluded in *Cappellini*[5] and is excluded as a business method. Moreover, none of the signposts point to the existence of any technical contribution: there is no effect carried out on a process outside the computer, there is no effect at the architectural level, the computer is not made to operate in a new way, the invention does not result in a better computer and there is no technical problem solved by the invention.

20 The final step of the *Aerotel* test is to check whether the actual or alleged contribution is actually technical in nature. I have already answered that above – the invention is a computer implemented business method. It is not technical in nature.

Decision

21 I have found that the contribution made by the invention defined in claim 1 falls solely in subject matter excluded under section 1(2) as a method of doing business and/or a program for a computer as such. I have carefully considered the specification as a whole but can identify no amendment that could reasonably be expected to form the basis of a valid claim. I therefore refuse this application under section 18(3).

Appeal

22 Any appeal must be lodged within 28 days of the date of this decision.

A Bartlett

Deputy Director, acting for the Comptroller

[5] *Cappellini* [2007] EWHC 476 (Pat)