Intellectual Property Office

BL O/259/17

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PATENTS ACT 1977

APPLICANT	Palantir Technologies Inc.
ISSUE	Whether patent application GB1411984.6 complies with Sections 1(1)(d) and 1(2) of the Act.
HEARING OFFICER	Peter Mason

DECISION

Introduction

1 This decision concerns the question of whether the invention set out in patent application GB1411984.6 relates to excluded matter. The application was filed on 4th July 2014 requesting combined search and examination. It was published as GB 2517582 A on 25th February 2015. The compliance date is 5th January 2018.

2 The Examiner reported that they considered the claimed invention to be excluded as being no more than a computer program as such and that they could see no saving amendment to the claims which would make them patentable. As a consequence of this, the Examiner reported that search would not serve a useful purpose under Section 17(5)b and thus to date, no search has been performed. After a number of rounds of correspondence and amendment to the specification, the Agent and Examiner could not reach agreement on the patentability objection and a hearing was arranged. I note that the final examination report dated 1st August 2016 included an objection to the clarity and support of the claims in addition to the main excluded matter objection.

3 The hearing before me took place on 12 November 2016 where the applicant was represented by Mr Nicholas Jones of Verner Shipley LLP.

The Law

4 The examiners raised objections under section 1(2) of the Act stating that the invention is not patentable because it relates *inter-alia* to one or more categories of excluded matter. The most 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) … ;

(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 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.

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. I am bound to follow the decisions of the UK Courts however.

5 There is a large amount of case law in relation to the provisions of section 1(2). The most significant recent judgments of the Court of Appeal on the matter are *Aerotel/Macrossan*[1] and *Symbian Ltd's Application*[2]. Following the guidance in *Symbian* I will use the four-step approach explained at paragraphs 40-48 of *Aerotel* and ensure in my consideration of steps (3) and (4) that I determine whether the invention makes a technical contribution. The steps are :

(1) Properly construe the claim;

(2) Identify the actual contribution;

(3) Ask whether it falls solely within the excluded subject matter;

(4) Check whether the actual or alleged contribution is actually technical in nature.

6 The Court said in *Symbian* (see paragraphs 8-15) that the structured four-step approach to the question in *Aerotel* was not a new departure in domestic law and that it remained bound by its previous decisions, particularly *Merrill Lynch*[3]. The *Aerotel* test is intended to be equivalent to the prior case law test of "technical contribution".

7 When considering the computer programme exclusion, it can be helpful to consider the 'signposts' set out in paragraph 40 of *AT&T/CVON*[4] which provide guidelines when considering whether a computer program makes a relevant technical contribution beyond the exclusion. The fourth signpost was subsequently reworded

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[1] *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371; [2007]
[2] *Symbian Ltd v Comptroller-General of Patents* [2009] RPC 1
[3] *Merrill Lynch's Application* [1989] RPC 561
[4] *AT&T Knowledge Ventures/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat)

by the court of appeal in paragraphs 50-51 of *HTC v Apple*[5] following *Gemstar*[6]; The five reworded signposts are 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;*
>
> *(iv) whether the program makes the 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.*

8 Prior to the hearing, Mr Jones sent a letter dated 14 November 2016 listing a number of precedent judgements and decisions that he intended to refer to at the hearing; These included *Symbian, Aerotel, HTC v Apple* and *Gemstar* that I mention above and the *Raytheon*[7] , *Merrill Lynch*[8] UK court judgements; Further listed were a number of decisions of the EPO boards of appeal : IBM T0006/83[9], IBM T0115/85[10] and *Vicom*[11].

The Invention

9 In summary, the invention is a computer program presenting a user with an interface so that they can search for possible duplicate data objects in a database by selecting from presented search criteria. If the user decides that a pair of objects found by the search are duplicates, they can choose to create a new merged object that combines data from the pair. This new object is added to the database and the original pair of objects are deleted from the database. Thus the invention is a tool for a user to check the quality of data in a database and resolve potential problems with the data.

10 The invention of GB1411984.6 is defined by the amended claims received on the 6th May 2016 which comprise two independent claims: Claim 1 relates to a computer system having a program configured to identify a possible pair of duplicate objects in a database and replace them with a merged object containing properties of the duplicate objects; Claim 6 which relates to a method, that uses a computer system, for identifying a possible pair of duplicate objects in a database and replacing them with a merged object containing properties of the duplicate objects.

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[5] HTC v Apple [2013] EWCA Civ 451
[6] *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10
[7] *Raytheon Co's Application* [2007] EWHC 1230 (Pat)
[8] *Merrill Lynch's Application* [1989] RPC 561
[9] *IBM* [1988] T0006/83
[10] *IBM* [1988] T0115/85
[11] *Vicom* [1986] T0208/84

11 l will consider these claims together as the matter of both claims is sufficiently similar.

12 **(1)** Properly construe the claims

The two independent claims are given below :

1. A computer system, comprising a memory, the computer system configured to:
receive selection of one or more data quality criterion for identifying possible duplicate objects;
receive one or more Boolean operators associated with the one or more data quality criterion and/or an indication of how many of the one or more data quality criterion are required in order to identify respective database objects as possible duplicate objects, wherein each of the database objects has properties obtained from multiple sources;
determine a possible duplication of a first object and a second object, wherein the first object and second object are stored in the memory, by scanning data associated with a plurality of database objects of a selected object type, each of the objects having one or more properties and corresponding property values, in order to determine if the selected one or more data quality criterion are matched by properties and properties values of the first object and the second object;
generate a user interface indicating the possible duplication of the first object and the second object having property values matching the selected one or more data quality criterion, and including one or more properties and/or property values of the first object and the second object;
receive, via the user interface, a user selection to resolve the possible object duplication;
and in response to receiving the user selection, resolve the possible object duplication by:
generating a merged object including the one or more properties of the first object and the second object;
removing the first object and the second object from the plurality of database objects;
and adding the merged object to the plurality of database objects.

6. A computer implemented method comprising:
receiving, by a computing system having one or more physical processors and a memory, wherein the computing system is configured to process large amounts of data, selection of an object type to monitor for possible duplicate objects, wherein each object has properties obtained from multiple sources;
receiving, by the computing system, selection of a data quality monitor type;
receiving, by the computing system, selection of one or more data quality criterion of objects of the selected object type;
receiving, by the computer system, one or more Boolean operators associated with the one or more data quality criterion and/or an indication of how many of the one or more data quality criterion are required in order to identify respective database objects as objects being possible duplicate objects, wherein the database objects are stored in the memory;
determining, by the computing system, objects being possible duplicate objects by scanning data associated with a plurality of objects of the selected object type in order to locate a first object and a second object matching the selected data quality criterion;

generating, by the computing system, a user interface indicating the first object and the second object being possible duplicate objects, and including one or more properties and property values of the objects being possible duplicate objects;

receiving, by the computing system and via the user interface, a user selection to resolve the possible duplication of objects;

and in response to receiving the user selection, resolve the possible duplication of objects by:

generating a merged object including the one or more properties of the first object and the second object;

removing the first object and the second object from the plurality of database objects;

and adding the merged object to the plurality of database objects.

13 The claims are generally straightforward to construe given the description, though I will make the following observations.

14 I note that the terms *"data quality criterion"* and *"data quality monitor type",* while not common terms in the art, are sufficiently well defined by the description; They essentially refer to the duplicate object search query selected by the user.

15 The Examiner raised a clarity objection against claims 1 and 6, stating that it was not clear what the scope was of the phrases *'receive, via the user interface, a user selection to resolve the possible object duplication'* and *'receiving, … a user selection to resolve the possible duplication of objects'* in the respective claims. The Examiner considered that the nature of the selection was unclear and that support was only provided for the user to 'confirm' that the pair of objects were duplicates. I do not think this issue causes a problem construing the claims, as it's implicit that the selection is in effect a user command given to the program to proceed with the data merging process.

16 I note an additional feature in Claim 6 that is not echoed in claim 1: *'the computing system is configured to process large amounts of data'*. There is nothing I could find in the application as filed that helps to define what 'large amounts' might be, nor is there anything to suggest the computing system or the database requires any specific configuration. I do not consider this phrase has a significant limiting effect and therefore does not cause a shift of the scope of claim 6 relative to claim 1.

17 An amendment received with the letter dated 6th May 2016 added the following feature to claims 1 and 6: *'... object[s] has properties obtained from multiple sources'.* Given the specification as filed, I find that the source of the data does not have an effect on how the invention works, nor does it appear to place any constraints or particular requirements on hardware.

(2) *Identify the actual contribution*

18 To assess the contribution, I will consider the problem said to be solved by the invention and the advantages the invention allegedly provides as well as considering how the invention works.

19 The broad problem that the invention addresses is having a dataset which may have duplicate records created where only one record is expected to exist. Removal of the duplicates, to leave a single representative record would thus improve the quality

of the dataset. Page 1 of the description makes it clear that the field of the application is *'…identifying and resolving data quality issues…'.* This problem is then said to be addressed by *'…presenting data with potential quality issues for user confirmation and resolution.'*

20 In the hearing, Mr Jones confirmed that he considered the contribution to be substantially that given in his letter dated 4th September 2015 where he stated an advantage is that *'… this leads to a freeing up of space in the computer's memory'*. Mr Jones states the contribution as a computer system *'… providing for lower memory occupation by merging first and second data objects having properties or property values fulfilling the criteria into a single object'*. Mr Jones also commented that he thought the Examiner's assessment of the contribution, as given in the report dated 1 August 2016, was too narrowly drawn.

21 The contribution given by Mr Jones is in my view a little too brief and leaves out some aspects of the interaction between the user and the program. I will however include the alleged advantage in my assessment of the contribution, which is :

> *A computer program for removing duplicate objects from a database of objects, thus reducing memory occupied by the database, where the user selects search criteria to identify potential duplicate pairs of objects in the database; the user then confirms if a found pair of objects are duplicates to cause a merged object to be created having properties from each object in the pair; the single merged object replacing the pair of duplicate objects in the database.*

(3) *Does the contribution fall solely within the excluded matter?*

22 It was common ground that the invention relates in substance to a computer implemented method and thus the relevant part of Section 1(2)(c) is whether the invention is *a program for a computer ... as such*.

23 In the letter of 4th September 2015, Mr Jones argues that running a computer with lower memory occupation is as much a technical advantage as running it faster, and thus was comparable to the *Symbian* judgement where it was made clear that a program that results in a computer running faster or more reliably may be considered to provide a technical contribution.

24 In the hearing, Mr Jones highlighted that the skilled addressee would understand that a smaller database would require less storage resources; he specifically noted the bottom of page 23 of the description, stating that the skilled addressee would understand that less time would be needed for a backup of the smaller database. I have read page 23 of the application as filed and note that while there is reference to storage and possible downloading of data, this is not a download of the whole database, but of only the results of the data quality monitoring. I agree however that the skilled addressee would understand both that a smaller database requires less storage space and that a smaller database would necessarily require less transmission time as less data needs to be transmitted.

25 Mr Jones went on to mention the *Gemstar* and *Apple vs HTC* judgements in passing, though he did not highlight any specific aspects of these, and said that in general if

certain tasks undertaken by a computer were performed more efficiently, then the overall resources of the computer were being used more efficiently. Mr Jones used this argument to address the second of the signposts, stating that there was an improvement in the way the computer worked and that this went to the architecture of the computer. I note that in the letter of 4th September 2015, Mr Jones also states that this points towards the fourth signpost being relevant with the computer being made to run in a more efficient manner since memory occupation is reduced.

26 I asked Mr Jones about these possible improvements and asked if they were in fact reliant on the actual nature of the data; I gave the example of where a database might be searched, but no duplicates are found, the computer program of the invention in that situation will not have caused the database to reduce in size. Mr Jones stated that a large dataset may comprise millions of data objects and that there would bound to be duplicates in that circumstance. I do not agree with Mr Jones on this latter statement; while it may be that a larger dataset will be more likely to contain an error, this is not a certainty.

27 I disagree that the contribution provides a technical effect that operates at the level of the architecture of the computer. Further, I find that the alleged technical effect does depend on the data, and does depend on the applications being run. The invention provides the user with a tool to improve the quality of a dataset by replacing duplicate data objects by a merged data object. The dataset size is what results in lower memory resources being used, and the reduction in size is only possible if the particular dataset happens to contain duplicates. In addition, it is the user that chooses to reduce the size of the dataset and the smaller dataset necessarily requires less resources. This is clearly not an effect occurring at the architecture of the computer. I find that the second signpost is not met.

28 I disagree that the contribution provides a technical effect that makes the computer better in the sense of running more efficiently or effectively. It appears that the alleged technical effect is a freeing of computing resources because a dataset is smaller than it was before. The alleged technical effect does not seem to require the claimed program to be running, simply that the program has previously been used to improve the quality of a dataset, and thus reduce the size of the dataset. While a relatively smaller dataset is quicker to deal with and takes up less storage space that is true of any situation where one might choose to process a smaller dataset. The way the computer processes and stores the smaller dataset is unchanged. I do not find that anything has been done to change the underlying computer and it is not made to be more efficient and effective of itself. I find that the forth signpost is not met.

29 I have considered all five signposts and none suggest that the contribution of this invention provides a relevant technical effect. I find that there is no technical problem with the computer being addressed; indeed it seems that the invention only addresses possible problems with a user's own dataset. I find no support for the data described in the application being anything other than user data; it is not for example any kind of architectural system data used by the computer's operating system. Further, I find that there is no technical problem outside of the computer being addressed.

30 The examiner in his reports dated 1st August 2016 and 8th January 2016 referred to an IPO Decision *Quantum Corporation*[12] and to a Patents Court decision *Kapur's Patent Application*[13]. I have read both but do not find that the facts of those cases are pertinent to this application or to this decision. I note that neither was raised or discussed at the hearing with Mr Jones.

31 In conclusion, the contribution is merely a computer program as such and I have found no relevant technical effect.

(4) *Check if the contribution is actually technical*

32 I find that there is no relevant technical aspect to the invention of application GB1411984.6.

Conclusion

33 For application GB1411984.6, I have not found the contribution to be a relevant technical one; the contribution is nothing more than a program for a computer as such.

34 Having read the application carefully, I see no saving amendment for the claims.

35 The outstanding objection to the clarity and support of the claims could be overcome by a simple amendment to the claims, such as the one suggested by the examiner. If this suggested amendment was done, it would not alter my conclusion that the claimed invention was excluded.

36 I find that the invention as claimed is excluded from patentability under Sections 1(1)(d) and 1(2) of the Act.

37 I therefore refuse the application under Section 18(3).

Appeal

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

Peter Mason

Deputy Director, acting for the Comptroller

[12] BL O/442/12
[13] Kapur's Patent Application, [2008] EWHC 649 (Pat)