



PATENTS ACT 1977

APPLICANT	Innoplexus AG
ISSUE	Whether patent application GB1722306.6 complies with section 1(2) of the Patents Act 1977
HEARING OFFICER	Peter Mason

DECISION

Introduction

- 1 Patent application GB1722306.6 entitled 'Method and system for extracting entity information from target data' was filed on 30 December 2017. It was published as GB 2569953 A on 10 July 2019.
- 2 On 22 June 2018 the examiner issued a combined search report and abbreviated examination report under Sections 17(5)(b) and 18(3) of the Patents Act 1977 ("the Act") explaining how, in his opinion, a search would serve no useful purpose as the claimed invention was excluded from patentability as a program for a computer as such. Despite several rounds of correspondence and some amendment, the applicant has been unable to persuade the examiner of the patentability of their invention and the applicant accepted the offer to present their views to a hearing officer.
- 3 The hearing took place on 19 November 2020 where the applicant was represented by Ben Jones and Matt Lawman, both of EIP Europe LLP. I am grateful for the skeleton arguments which helped progress the discussions at the hearing.
- 4 The only matter before me is whether the invention is excluded from patentability under section 1(2)(c) of the Act as a program for a computer as such. The issue of exclusion is the only issue that has been considered so far. If I find that the claimed invention is not excluded from patentability, I will return the application to the examiner to perform a search and complete the substantive examination.
- 5 I confirm that in reaching my decision I have considered all documents on file.

The invention

- 6 The application describes a method performed by a computer. The invention is concerned with refining datasets to extract content relevant to a user (entity information). The description's main example concerns algorithms to identify useful

information within target data such as drugs and doses within clinical trials data. Target data is refined to obtain base entity information comprising base entity units. Unnecessary stock terms (prepositions, articles, verbs, adjectives and the like) are removed from the base entity units which can then be prepared into strings of entity information. Those strings are sorted, labelled and compared to a predefined signature of the entity information. For example, the invention can serve to resolve target data such as "Name of the subject is X. Subject X is given Y 10 mg for 5 days" to a plurality of base entity units of "Y", "10", "mg", "for", "5" and "days". These base entity units can be further refined and formed into strings of the units, those strings being sorted and ranked. As set out in the technical field of the application, the invention relates to data processing and extraction of relevant content from a database.

- 7 The claims were last amended on 24 September 2020 and include three independent claims each sharing the common method set out in claim 1:

A method of extracting entity information from target data, characterized in that the method comprises:

- providing the target data;*
- refining the target data to obtain at least one base entity information having a plurality of base entity units using an algorithm, wherein the algorithm is based on a predefined syntax and refining the target data comprises comparing the target data to predefined stock entity units and removing stock entity units from the target data to obtain the at least one base entity information;*
- generating a plurality of strings for each of the base entity information, wherein the plurality of strings each comprise at least one of the plurality of base entity units, each of the plurality of strings having a length;*
- sorting the plurality of strings in a decreasing order of length;*
- processing the plurality of strings sequentially in the decreasing order of length to identify an entity type of the plurality of strings, based on an ontology;*
- assigning labels to the plurality of strings based on the identified entity type; and*
- comparing the labelled plurality of strings to a predefined signature to identify strings with a signature corresponding to the predefined signature, and using identified strings as the entity information.*

The Law

- 8 The examiner raised an objection under Section 1(2) of the Act that the invention is not patentable because it relates to one or more categories of excluded matter. The relevant provisions of this section of the Act are shown with added emphasis 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**.*

- 9 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 the Court of Appeal in *Symbian*². In *Aerotel*¹, the court reviewed the case law on the interpretation of Section 1(2) and set out a four-step test to decide whether a claimed invention is patentable:

1. *Properly construe the claim.*

2. *Identify the actual contribution (although at this stage it is an alleged contribution).*

3. *Ask whether that contribution 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.*

- 10 The Court of Appeal in *Symbian*² made it clear the four-step test in *Aerotel*¹ was not intended to be a new departure in domestic law; it was confirmed that the test is consistent with the previous requirement set out in case law that the invention must provide a “technical contribution”. Paragraph 46 of *Aerotel*¹ states that applying the fourth step of the test may not be necessary because the third step should have covered the question of whether the contribution is technical in nature. It was further confirmed in *Symbian*² that the question of whether the invention makes a technical contribution can take place at step 3 or step 4.

- 11 Lewison J (as he then was) in *AT&T/CVON*³ set out five signposts he considered to be helpful when considering whether a computer program makes a technical

¹ *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371; [2007] RPC 7

² *Symbian Ltd v Comptroller-General of Patents* [2009] RPC 1

³ *AT&T Knowledge Ventures LP and CVON Innovations Ltd v Comptroller General of Patents* [2009] EWHC 343 (Pat)

contribution. In *HTC/Apple*⁴ the signposts were reformulated slightly in light of the decision in *Gemstar*⁵. The signposts are:

- 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.*

- 12 The relevance of the legislation and legal precedent above is not contested in the latest communications or at the hearing.
- 13 In their last report, the examiner made specific reference to *Autonomy*⁶ along with Office decisions *BL O/039/07*⁷ and *BL O/045/07*⁸. The agent contests the relevance of these in light of the later judgment in *AT&T/CVON*³. In this respect, the skeleton arguments⁹ state these references pre-date the *AT&T/CVON*³ signposts and hypothesise that those earlier proceedings may have reached a different conclusion had the signposts been applied. In response to this I will state that the signposts set out in *AT&T/CVON*³, and clarified by *HTC/Apple*⁴, do not clearly change interpretation or override judgments that went before. What *AT&T/CVON*³ does is to clarify the questions that must be asked.
- 14 The skeleton arguments refer also to *Lenovo*¹⁰. *Lenovo*'s invention was shown to have a technical contribution outside of the computer in which it was implemented and so may be helpful when considering the first *AT&T/CVON*³ signpost.
- 15 The applicant and the examiner have each referred to Office decisions *BL O/112/18*¹¹ and *BL O/360/19*¹². These references make clear that where there is substantial doubt whether an invention may be excluded, the benefit of the doubt

⁴ *HTC Europe Co Ltd v Apple Inc* [2013] EWCA Civ 451

⁵ *Gemstar-TV Guide International Inc v Virgin Media Limited* [2009] EWHC 3068 (Ch), [2010] RPC 10

⁶ *Autonomy Corporation Ltd v The Comptroller General of Patents, Trade Marks & Designs* [2008] EWHC 146 (Pat), [2008] RPC 16

⁷ *Canon* BL O/039/07

⁸ *Canon* BL O/045/07

⁹ Agent's letter of 12 November 2020, page 1, items i & ii

¹⁰ *Lenovo (Singapore) PTE Ltd v Comptroller General of Patents* [2020] EWHC 1706 (Pat)

¹¹ *Landmark Graphics Coporation* BL O/112/18

¹² *Adobe Systems Inc* BL O/360/19

should be given to the applicant. I will ensure I confirm this step before I conclude my decision.

- 16 The proceedings of the application include references to various other prior decisions. I am aware of those prior decisions but I do not need to refer to them in my decision and they were not discussed in the hearing.

Application of the Aerotel approach

Steps 1 and 2: Properly construe the claim; Identify the actual (or alleged) contribution

- 17 The first and second steps of the *Aerotel*¹ test are not contested by the examiner or the applicant and so I do not need to labour those points here. Needless to say, the claims are clear to construe and the contribution can reasonably be considered as:

A method that includes extracting pieces of relevant data from an original data set based on a first comparison with stock entity units, splitting and labelling the remaining data after the first comparison into strings labelled by entity type, and performing a second comparison of labelled strings to a preidentified signature to retrieve the relevant data.

Steps 3 and 4: Ask whether the contribution falls solely within the excluded subject matter and whether it is technical in nature

- 18 The third and fourth steps of the *Aerotel*¹ test involve considering whether the contribution falls solely within excluded categories, and then checking whether the contribution is technical in nature. It is appropriate to consider these two steps together because whether the contribution is technical in nature will have a direct impact on whether it falls solely within excluded matter.
- 19 While it is generally accepted that the *AT&T/CVON*³ signposts are only guidelines, the examiner and applicant appear to be in agreement they are helpful here. At the hearing, discussion points focussed on the first and fifth signposts.
- 20 Regarding the first signpost, the question is whether the claimed technical effect has a technical effect on a process which is carried on outside the computer. There is no suggestion the data this invention uses is anything other than wholly held and processed within a computer. In their letter of 12 November 2020, the agent has correctly pointed out that this signpost is not assessing “*whether there is an improvement in the underlying computer system per se, but whether the claimed technical effect has a technical effect on a process which is carried on outside the computer.*”
- 21 In the case of this invention, and turning in particular to the agreed contribution, the contribution is stated as residing wholly within the specific steps of processing a data set. On the face of it, I cannot see how that contribution can be understood to have any technical effect on a process outside the computer. Nonetheless, I will consider the specific argument that has been made.
- 22 In both the skeleton arguments and at the hearing it was suggested that *Lenovo*¹⁰ is relevant. Judge Birss decided that the invention was not a computer program as

such because its contribution automated a specific process which in turn removed a specific manual – and technical – process. Acknowledging different facts of the cases, the applicant draws analogy here with *Lenovo*¹⁰ because this invention removes the need for physical interaction by users, and removes the need to sift and extract results. At the hearing, Mr Lawman referred to this as a two-fold improvement. It is the removal of the need to interact rather than the removal of a technical interaction. I understand the applicant's perspective here but I cannot see this as naturally resulting in a technical effect on a process outside the computer. It seems to me this argument points in the opposite direction and that is to a process wholly within a computer. Also, if the contribution is the removal of physical interaction then it seems to me we would have arrived at that in step 2. I am not persuaded that *Lenovo*¹⁰ helps here. I do not see that this signpost points towards the contribution being technical.

- 23 At the hearing there was no suggestion that the third, fourth or fifth signposts were helpful. For formality's sake, I will state my view that the present invention is not operating at the level of architecture of the computer; the computer does not operate in a new way; and the computer is not a better computer as is understood by the interpretation of those signposts.
- 24 Turning to the fifth signpost, the applicant's skeleton arguments refute the examiner's view that the invention merely circumvents the problem by selecting a subset of the data. In the hearing, Mr Jones and Mr Lawman made the point that the target data in question is "everything" and it is the invention which refines the data to a subset. As such, this is not circumventing the problem. I agree with the applicant in this respect: the invention is not merely circumventing a problem. However, just because the problem is not circumvented does not mean a technical problem is solved.
- 25 As I stated above, this invention concerns data processing and extraction of relevant content from a dataset. In this respect the examiner has referred to the *Autonomy*⁶ judgement along with Office decisions *BL O/039/07*⁷ and *BL O/045/07*⁸. I have already commented on the applicant's view as to whether *Autonomy*⁶ can be relevant; for the avoidance of doubt, it can be relevant because *AT&T/CVON*³ did not change legal interpretation.
- 26 There was little discussion of *Autonomy*⁶ in the hearing. Mr Jones made clear his view that the facts of this case are different to *Autonomy*⁶ and we need to analyse the facts of the present case after *AT&T/CVON* to get to the right conclusion. It is hard to disagree with that view. Nonetheless, it is important to check precedent case law and to confirm what other similar cases have concluded. To that end, *Autonomy*⁶ is more important than *BL O/039/07*⁷ and *BL O/045/07*⁸. The judgement of *Autonomy*⁶ summarises that invention, at paragraph 4, as:

"Thus the claimed invention analyses a file or document in an open window of a computer. Having analysed the content of the file or document, it will then search the user's computer for files with similar or relevant content and will also search other sources (e.g. the Internet) for files with similar or relevant content. Having located such files it will then create a link to those files, and display the link on the user's computer."

- 27 I think it is important for me to recite paragraph 40 from the decision of Justice Lewison (as he was then) here with some emphasis added:

In my judgment, as Mr Tappin submitted, automatic text analysis, comparison and results generation is a paradigm example of a case in which the contribution falls squarely within excluded matter, i.e. a program for a computer. The claimed contribution, so far as the first element is involved does not exist independently of whether it is implemented by a computer. On the contrary, it depends on a computer processing or displaying information in an active window, and on a search program to analyse it and to compare and generate results. Nor does it require new hardware or a new combination of hardware; and it does not result in a better computer. The only effect produced by the invention is an effect caused merely by the running of the program, which consists of the manipulation of data. It is in short a claim to a better search program.

- 28 There is no suggestion this is the same invention as the present application. Nonetheless, considering the automated analysis of file content and presentation of results, there are clear similarities. Even if either of signposts (i) or (v) did point towards this invention being technical – which they do not – it would be difficult to dismiss Justice Lewison’s influential *obiter dictum* comments. While I do not think I need to analyse them in any detail, this view is also in the spirit of the Office decisions in *BL O/039/07*⁷ and *BL O/045/07*⁸.
- 29 I do not see that the present invention overcomes any technical problem. The contribution of the invention is to extract data by analysing it, comparing it with other data, and retrieving data by further comparison. There can be no doubt this invention concerns automatic data analysis and result generation and falls solely within the excluded field of a computer program as such.

Substantial doubt

- 30 Referring back to Office decisions *BL O/112/18*¹¹ and *BL O/360/19*¹², it is clear to me there is no substantial doubt. The lack of helpful signposts and the influence of Autonomy clearly remove any doubt whatsoever. There is therefore no doubt to me that this invention falls into the excluded category of Section 1(2)(c).

Decision

- 31 I find the invention claimed in GB1722306.6 falls solely within matter excluded under Section 1(2) as a program for a computer as such. I can find no amendment in the specification that will render the claims patentable. I therefore refuse the application under Section 18(3).

Appeal

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

Peter Mason

Deputy Director, acting for the Comptroller