Intellectual Property Office

BL O/621/18

04 October 2018

PATENTS ACT 1977

APPLICANT	Intuit Inc.
ISSUE	Whether patent application GB1212468.1 complies with section 1(2) of the Patents Act 1977
HEARING OFFICER	Phil Thorpe

DECISION

Introduction

1. Patent Application GB1212468.1 was filed on 21st March 2011 and published as GB 2489858 A on 10th October 2012.

2. Despite a number of rounds of correspondence between the examiner and the applicant's attorney, and amendments of the claims, the applicant was unable to satisfy the examiner that the application met the requirements of the Patents Act 1977 (the Act). In particular the examiner was not satisfied that the claimed invention is not excluded from patentability.

3. The matter came before me at a video hearing on 2nd August 2018. The applicant was represented by Simon Davies and Toby Willis of D Young & Co.

The Invention

4. The invention is concerned with producing linguistically correct computer generated text. More specifically it seeks to ensure that the text in languages that have genders accurately reflects the gender of any nouns used in a particular sentence.

5. In one embodiment of the invention the computer receives a computer generated sentence comprising two or more words. The system then automatically determines a gender of a first word and then analyses the sentence to identify a word whose spelling is dependent on the gender of the first word. The system then determines if the spelling of the first dependent word is correct and if not it corrects it. Finally, the system outputs the linguistically correct sentence.

6. The latest claim set was filed on 3rd April 2018 and includes independent claims directed to a computer implemented method, a computer readable storage

medium including instructions and computer implemented apparatus for generating the gender correct text. Claim 1 reads as follows:

1. A computer-implemented method for using linguistically-aware variables in computer-generated text, the method comprising:

   receiving a sentence at a computer system, wherein the sentence comprises two or more words;

   analyzing the sentence to identify a first variable, wherein the first variable is a placeholder for a first word;

   receiving the first word;

   automatically determining a gender of the first word; wherein automatically determining the gender of the first word involves:

      determining a spelling of the first word;

      performing a lookup of the first word in a dictionary and

      upon determining that the first word is not present in a dictionary, analyzing the spelling of the first word using a pre-determined list of rules to determine the gender.

   analyzing the sentence to identify a first dependent word that is dependent on the first word, wherein a spelling of the first dependent word is dependent on the gender of the first word;

   replacing the first variable in the sentence with the first word;

   determining the spelling of the first dependent word that corresponds to the gender of the first word, and if necessary, modifying the spelling of the first dependent word in the sentence to match the gender of the first word; and

   outputting the sentence.

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 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) 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 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 the 8th 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*[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 appropriate to proceed on the basis of the four-step approach explained at paragraphs 40-48 of *Aerotel* namely:

    (1) Properly construe the claim.
    (2) Identify the actual contribution (although at the application stage this might have to be the alleged contribution).
    (3) Ask whether it 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.

11. Lewison J (as he then was) in *AT&T/CVON*[5] set out five signposts that he considered to be helpful when considering whether a computer program makes a technical contribution. In *HTC* the signposts were reformulated slightly in light of the decision in *Gemstar*[6]. 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.

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[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] RPC 7
[3] *Symbian Ltd v Comptroller-General of Patents*, [2009] RPC 1
[4] *Merrill Lynch's Appn*. [1989] RPC 561
[5] *AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat); [2009] FSR 19
[6] *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2009] EWHC 3068 (Pat); [2010] RPC 10

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.

Applying the Aerotel test

Step 1 - Properly construe the claim

12. For the purposes of this decision no real issues of construction arise. There was a brief discussion about whether there was support for the proposition put forward by Mr Davies that the output referred to in claim 1 included a voice output. Whilst the application as filed does provide support for a variety of outputs it does not explicitly refer to a voice output. In the event I do not believe anything turns on this.

Step 2 – *Identify the actual contribution*

13. Mr Davies suggested that the contribution was broader than that suggested by the examiner in particular that it should be considered to also include the output step. I agree. Hence I believe the contribution is a method of receiving, correcting and outputting computer generated text that is, from the perspective of the gender of the text, linguistically correct.

Steps 3 and 4 Ask whether it falls solely within the excluded matter and check whether the actual or alleged contribution is actually technical.

14. I will consider steps 3 and 4 together. Mr Davies main contention was that when a computer interfaces with a human it is important that it does so in a linguistically correct way. He argued that getting the gender of the words correct provides an objective improvement in the interface. It is something that can be readily verifiable. This contrasts with other interface cases where the improvement may be more subjective for example in terms of ease of access or improved appearance. This objective benefit reduces the possibility of misunderstanding where the wrong gender of a word can alter its meaning. It can also make the computer appear more human.

15. Whilst the invention is clearly implemented on a computer by means of a computer program, Mr Davies correctly noted this is not fatal to his case. Rather, as in *Symbian* he contended that the computer program implementing the invention here make the computer a better a computer. This also brings it within signpost iv) of the *AT&T* signposts.

16. He further contended that the contribution is not data processing as such but rather it enhances the functionality of the computer. The invention does not operate at the application level rather it could be incorporated into the operating system of the computer. This brings it also within signpost ii) of *AT&T*.

17. Mr Davies sought support from the EPO Board of Appeal decision T115/85[7] relating to a patent filed by IBM Corp. He noted that whilst this decision was not binding on me, it had nevertheless been endorsed by the UK Courts. I accept this. Lord Neuberger for example in paragraph 49 of *Symbian* noted that:

> "In deciding whether the Application reveals a "technical" contribution, it seems to us that the most reliable guidance is to be found in the Board's analysis in Vicom and the two IBM Corp. decisions, and in what this court said in Merrill Lynch and Gale."

18. T115/85 is one of the two IBM decisions referred to. Mr Davies sought to compare the subject matter of the patent under consideration in T115/85, EP 0052757, with the patent here. He noted that it also related to a method of generating text messages. That may be true however as I explained to Mr Davies it is important to understand what was claimed and how that influenced the decision to hold that the invention involved a technical contribution. The claims as granted on which the decision is based refer to a method for displaying one of a set of predetermined messages comprising a phrase made up of a number of words, each such message indicating a specific event which may occur in the input/output device of the computer. The claims go on to define how the message is built up from words stored in a table in an order based on the frequency of use of that word in the possible messages than can be displayed. This purportedly allows for a quicker generation of the message. In the particular embodiment described in the patent the message relating to a specific event of the input/output device is "Close Diskette Door".

19. In its decision the Board noted that giving visual indications automatically about conditions prevailing in an apparatus or system is basically a technical problem. Hence even if the basic idea underlying the invention might be considered to reside in the computer program and the way the tables are structured, a claim directed to solving a technical problem cannot be regarded as seeking protection for a computer program as such.

20. When I asked what the technical problem is that the invention here is addressing, Mr Davies replied that it was improving communication between a computer and a human by providing linguistically correct text. Mr Davies suggested that it is not inconceivable that the output from the invention here could also relate to the status of the computer as in T115/85. That may be true though there is nothing in the application about that nor more importantly is the claim specifically directed to providing information about anything within the system that could be considered technical. Hence I do not believe T115/85 really helps here. Whilst the invention in issue does provide a solution to the problem of linguistically incorrect text, the problem that is being solved is not technical.

21. In advance of the hearing I indicated that I might want to be addressed on *Gemstar*. I did this because it discusses in part whether a "better" interface can provide a technical contribution. This is an argument that the applicant had raised in its correspondence with the examiner and as noted above one that Mr Davies also sought to rely on at the hearing.

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[7] https://www.epo.org/law-practice/case-law-appeals/recent/t850115ex1.html

22. Before I consider those arguments it is useful to say a little about one of the inventions in issue in *Gemstar.* The so-called "Single Channel patent" involved Electronic Programme Guides (EPG) with the inventive concept centred on the format in which the information was displayed. More specifically the EPG first displayed programme listings in grid form, showing a number of channels. It was then possible to move a cursor to highlight and then select a particular programme. This resulted in the display switching to single channel mode where only the programmes listed on the selected channel were displayed.

23. In *Gemstar* Mann J. drew on the following observations by Lewison J. in *AT&T* in which he had contrasted the invention in IBM with data processing:

> "The point that the Board is making is that the computer output results in something happening in the real world, namely the giving of visual indications. The claim related to things going on inside the workings of the computer, *rather than any form of data processing.*" (Paragraph 25)

and

> "This, too, of course leaves the phrase 'in a technical sense' undefined, but it points towards some generally applicable method of operating a computer rather than a way of handling specific data." (Paragraph 31)

24. Mann J. went on to note that:

> "If that distinction is applied in the present case (the Single Channel patent), then in my view it falls on the data processing side of the line. The purpose of the invention is to achieve the display of information in a user-friendly way by user-friendly means. But in reality it is data processing rather than technical effect that is in play here."

25. Mann J. then considered whether the Single Channel patent provided a better interface. He noted:

> "So the case comes down to a consideration of whether there is a technical effect as required by step 4 (or perhaps step 3) of Aerotel. The technical effect relied on by Gemstar is a better interface, or a different interface if "better" is not relevant. That is an abstract concept. It does not in terms describe some physical activity or effect. There is a different display on the screen, but that is not enough, in my view. That is still part of the computer program and is not an external effect (Mr Birss did not rely on any internal effect). Many computers running a program are likely to have a display output, and if that were enough to be a technical effect then every program in such a computer would be likely to fall outside the exclusion, which is unlikely to have been the intention of the draftsman of the Act. A different display to that shown before does not seem to me to go far enough to amount to a technical effect which makes a difference. Mr Birss describes the technical content as being a better user interface (usually) or a user interface (sometimes). That way of describing it does not overcome the difficulty he faces. Ultimately they are both ways of describing, in different terms from the patent, what the invention is said to achieve. But they are both judgmental, the first more so than the second. The fact that what the user perceives and interacts with is "better" does not make the advance technical at all (nor is it part of the claims). Nor does characterising it as an interface give it a technical effect that it would not otherwise have had. One has to look to see what the effect actually is, and in my view it is not technical. In fact, in the sense in which Mr Birss uses the expression, "interface" confirms this - it is an abstract, not a physical, concept." (Paragraph 50).

26. Mr Davies quite rightly highlighted firstly the danger of interpreting too broadly what the judge said in *Gemstar* especially when trying to apply it to a different invention. He also highlighted that in *Gemstar* the Judge appeared to have been unconvinced that the interface in the single channel patent was a better interface. As I have already discussed Mr Davies contended that the interface here is objectively better. This contrasts with the more judgemental benefit that had troubled Mann J in *Gemstar.* I am content to accept that the benefit here is easy to measure – the text is either linguistically correct or it isn't. But I do not take the Single Channel patent in *Gemstar* to have been held excluded solely because the benefit was subjective or abstract. Rather as seems clear from the passages I have quoted above the judge came to the conclusion also that any contribution was not the result of a technical effect but rather better data processing. I reach the same conclusion here. Ensuring that computer generated text is linguistically correct having regard to the gender of words used may indeed result in a better human computer interface however it is necessary to consider what has produced that. It is not a solution to a technical problem. Rather the problem was a data processing problem with the program that produced the initial linguistically incorrect text. The solution, even if tethered to outputting the text, is on the same data processing side of line as the invention in *Gemstar*.

27. I would add for completeness that I do not believe that the invention here does operate at the architectural level of the computer. Its operation is clearly dependent on the data, ie the computer generated text, being processed. Whilst the computer generated text could originate from a range of applications and the corrected text could also be the output of a number of different applications, that does not take the invention to the sort of level envisaged in signpost ii) of *AT&T*. Further whilst the invention may provide a better computer to human interface, it does not make the computer itself a better computer as envisaged by signpost iv) of *AT&T.*

Conclusion

28. I find that the invention claimed in GB1212468.1 falls solely within matter excluded under section 1(2) as a program for a computer as such. Having carefully considered the specification as a whole, I can see nothing that could be reasonably expected to form the basis of a valid claim. I therefore refuse this application under section 18(3).

Appeal

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

Phil Thorpe
Deputy Director, acting for the Comptroller