



PATENTS ACT 1977

APPLICANT Lenovo (Singapore) Pte. Ltd

ISSUE Whether patent application GB1522765.5 complies
 with section 1(2) of the Patents Act 1977

HEARING OFFICER Phil Thorpe

DECISION

Introduction

1. Patent application GB1522765.5 was lodged on 23rd December 2015 claiming a priority date of 23rd December 2014 from United States application US 14/580,798, which was later published as US 2016/179772.
2. Despite several rounds of correspondence between the examiner and the applicant's attorney, the applicant has been unable to satisfy the examiner that the application met the requirements of the Act. In particular, the examiner remains of the opinion that the claimed invention is excluded from patentability.
3. The matter came before me at a hearing on 14 January 2020. The applicant was represented by Mr Thomas Leffers of Schweiger & Partners.

The Invention

4. The invention relates to a method of accepting handwritten input to a computer. More specifically, it involves accepting handwriting ink strokes, determining handwriting units, accepting editing input between two handwriting units, and dynamically growing an insertion handwriting unit to accommodate the new handwriting ink strokes, and dynamically reflowing the handwriting units based on the insertion handwriting unit size.
5. As explained in paragraphs 17-20 of the original description of 23rd December 2015, and shown in the following figure, the handwriting units may be the logical units of handwriting (e.g. words, characters).

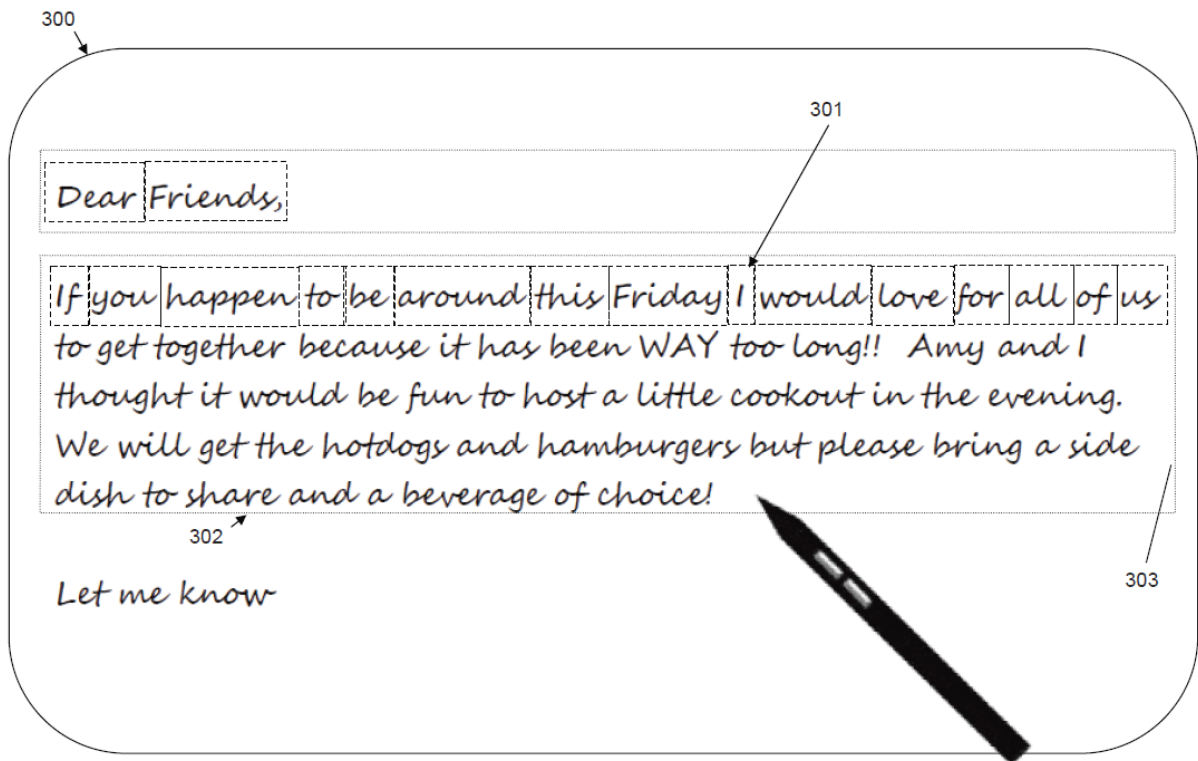


FIG. 3A

6. The claim allows handwriting units to be handled in essentially the same way as typeset characters were (and still are) handled, for example in a word processing document. This is shown in a simple example in the figures below where an editing insertion replaces "I" with the longer "we" which results in the final handwriting unit 309 on the line of text reflowing to the following line.
7. The advantage as explained in the application is that this reflowing allows the original layout of the text to be preserved and does not leave whitespace in the document that would be inconsistent with the initially established layout.

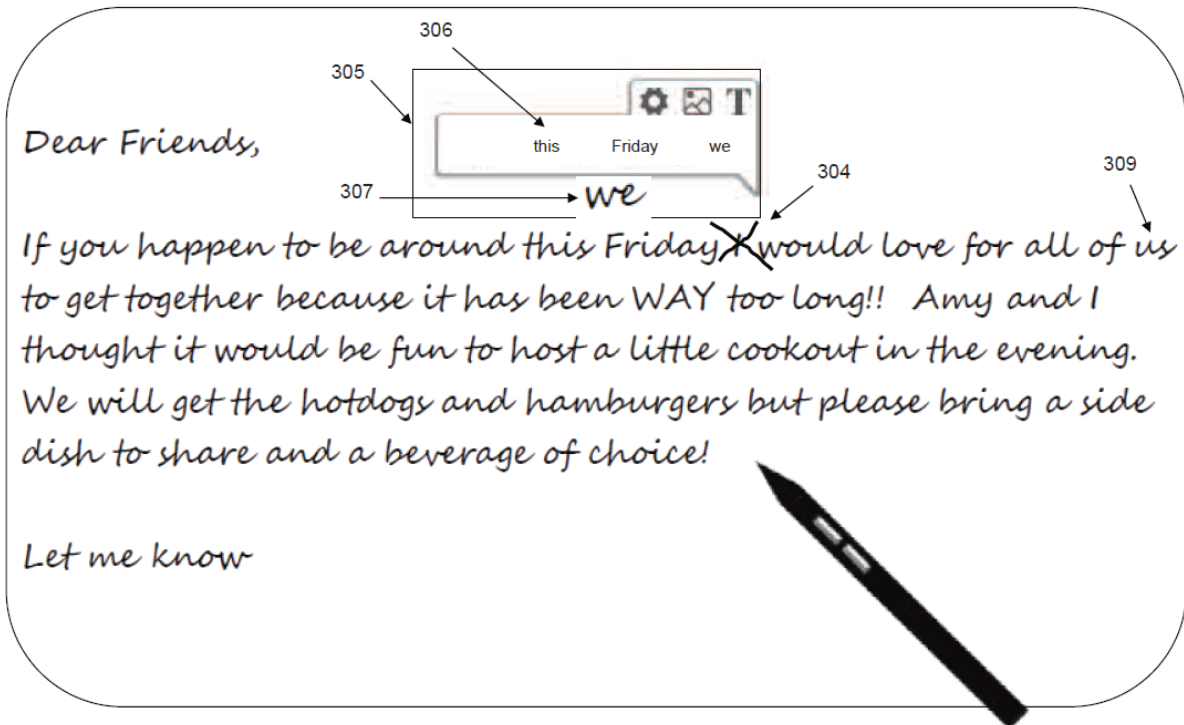


FIG. 3B

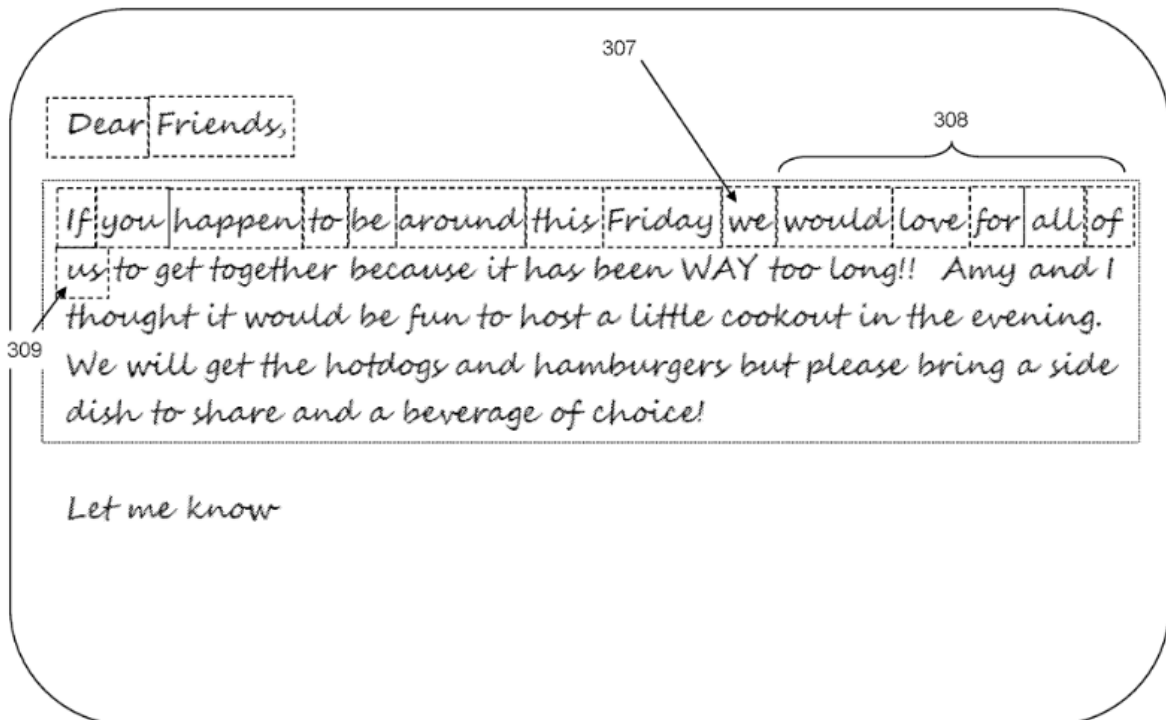


FIG. 3C

8. The claims under consideration were filed on 23rd February 2017. Claim 1 reads as follows:

A method, comprising:

accepting, in an input overlay application, handwriting ink strokes;

determining handwriting units for the handwriting ink strokes;

accepting editing input of the handwriting ink strokes;

reflowing handwriting ink strokes based on the editing input wherein the editing input comprises an insertion gesture; and

the reflowing comprises inserting new handwriting ink strokes as a new handwriting unit between two existing handwriting units;

further comprising dynamically growing an insertion handwriting unit to accommodate the new handwriting ink strokes;

wherein the reflowing comprises dynamically reflowing the handwriting units based on the insertion handwriting unit size.

The Law

9. The examiner has raised an objection under section 1(2) of the Patents Act 1977 that the invention is not patentable because it relates a category 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..

*(c) ... a **program for a computer**;*

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.

10. As explained in the notice published by the IPO on the 8th December 2008¹, 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.
11. 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

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

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.

12. 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.*

Applying the Aerotel test

Step 1 - Properly construe the claim

13. There is general agreement that no issues of construction arise. The claim is clear. The claimed invention defines a method of entering handwritten input to a computer, determining handwriting units for the input, and then editing the handwritten input by inserting new handwriting ink strokes and dynamically reflowing existing handwriting units to accommodate the new input.

Step 2 – Identify the actual contribution

14. The examiner, in his pre-hearing report dated 20th November 2019, identified the contribution as:

‘a method of dynamically reflowing handwriting ink strokes in an application in response to insertion of new ink strokes, the method comprising determining handwriting units for the existing ink strokes, receiving an insertion gesture and the new ink strokes, dynamically growing an insertion handwriting unit to accommodate the new ink strokes, and dynamically reflowing the handwriting units based on the size of the insertion handwriting unit.’

15. In paragraph 43 of *Aerotel/Macrossan*, Jacob LJ said ‘what has the inventor really added to human knowledge perhaps best sums up [the contribution]’. The prior art identified by the examiner, US 2008/0170789, discloses a method of inserting additional text into a document by first creating a space in the existing text (see figure 15B below) then inserting the additional text (figure 15c) and then finally normalising the text by removing any excess space remaining (figure 15D).

⁴ *Merrill Lynch's Appn.* [1989] RPC 561

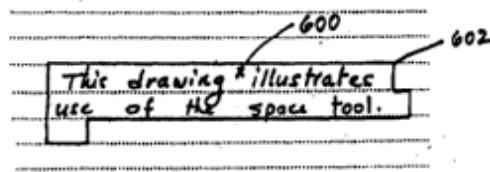


Fig. 15A

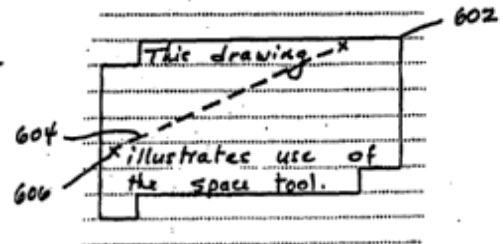


Fig. 15B

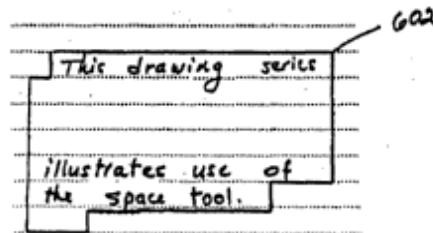


Fig. 15C

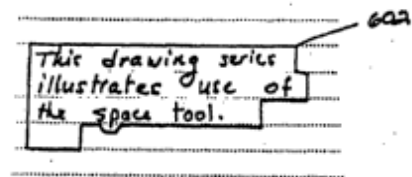


Fig. 15D

16. It is clear from this document that entering and editing a handwriting input was already known at the priority date.
17. The difference between the claim as construed above and the prior art cited by the examiner therefore resides in how the space for the new handwriting ink strokes is defined, and how the existing text following the insertion point is repositioned. In particular, this application provides for dynamically growing an insertion space, and dynamically reflowing the previously entered handwriting units. This it is claimed requires fewer steps than the prior art.
18. Mr Leffers emphasised that the contribution of the claim as a whole must be considered and must not be limited to only those features which are new and inventive – an approach known as “salami slicing”. He argued that the invention is not merely editing a previously provided input, but it is editing *in the process of providing the input*, and so the overall contribution is an improved handwriting input modality, with the same advantages and mode of use as a conventional keyboard input.
19. However, since it was known at the priority date to attempt to improve a method of editing handwriting input, I think Mr Leffers attempts to stretch the contribution too far. In my view the contribution – what the inventor has added to human knowledge – only really relates to editing of handwriting input though I accept that the editing can be done shortly after the text has been entered and before the entirety of the text has been entered.
20. Having taken into account Mr Leffers’ submissions throughout the hearing, I consider that claim 1 can broadly be considered as contributing:

A better means of editing handwriting text on a computer by dynamically growing an insertion space to enable edited text to be entered and dynamically reflowing the previously entered handwriting units.

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

21. I will consider steps 3 and 4 together.

22. Lewison J (as he then was) set out five signposts *AT&T/CVON*⁵ that he considered to be helpful when considering whether a computer program makes a technical contribution. In *HTC*⁶ the signposts were reformulated slightly in light of the decision in *Gemstar*⁷. The signposts are:

1. Whether the claimed technical effect has a technical effect on a process which is carried on outside the computer.
2. 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.
3. Whether the claimed technical effect results in the computer being made to operate in a new way.
4. Whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer.
5. Whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.

23. Mr Leffers did not make any submission in relation to signposts 1-2, and I agree that these are not relevant in the present case.

24. Mr Leffers began by discussing signpost 4 arguing that an improved input modality makes the computer as a whole more reliable. When questioned as to whether this advantage applies to the computer as a whole, rather than just a specific program or application, Mr Leffers emphasised his view that the application is not just data processing or a program or application, but is a handwriting input device or modality which therefore improves the computer as a whole.

25. I cannot accept this for two reasons. Firstly, not all programs require or accept handwriting input. Although the claim is worded as using an 'input overlay application', the substance is only applicable to programs that accept handwriting input. The contribution therefore only improves those programs, and not the computer as a whole. More importantly, as discussed above, I do not agree that the contribution extends to a handwriting input modality but is

⁵ *AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat); [2009] FSR 19

⁶ *HTC v Apple* [2013] EWCA Civ 451

⁷ *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2009] EWHC 3068 (Pat); [2010] RPC 10

merely a better means of editing handwriting text on a computer by allowing insertion of additional text. The contribution does not lie in accepting handwriting input, but in the way that input is formatted, especially when edited. This may make a better program for a computer, but certainly does not make a better computer.

26. In relation to signpost 5, it is accepted by the examiner that the problem is not being circumvented, but he is of the opinion that the problem is not technical. Mr Leffers disagrees, and argued that the invention is more than just data processing, but is providing an improved input modality, for example for a control input or programming input. He said that the handwriting input as such is improved, and improving a handwriting input modality is clearly a technical problem.
27. Again, this argument relies on a broad definition of the contribution which I cannot accept. Whether or not an improved handwriting input modality is technical, an improved way of editing handwriting input is in my view not. Rather this is a problem associated with editing inputted handwritten text and that is not in my opinion a technical problem.
28. Mr Leffers did not elaborate on the possibility of the input being a control or programming input, but for completeness I will address this point, as he used these terms several times in the hearing. The application deals with editing a handwriting text input and does not anywhere discuss that text being a control or programming input. Control and programming inputs are of course among the uses for entering text into a computer, so these uses are encompassed by the invention. However, the invention deals only with how the input is displayed. It does not provide any other advantage that would assist with control or programming inputs, so the application is in no way helped by the mere possibility that the input could be used for controlling or programming the computer.
29. Mr Leffers argued that providing a handwriting input, for example for controlling a computer, is inherently technical. However, the contribution does not relate to a computer interface for accepting handwriting input, but rather, as I have already mentioned, it relates to the editing of handwriting input, which is not technical, so this argument does not assist the applicant.
30. As a final argument, Mr Leffers said that the components of computer have to be addressed in a different way, as a handwriting input must be active, and gesture recognition has to be active during the handwriting input, so the computer is made to operate in a new way, referencing signpost 3. Again, it needs to be said that accepting a handwriting input is not new. What is new is merely the way in which an editing input is handled and displayed, and how the previous handwriting input is handled in response to the editing input. This is not a computer operating in a new way, so signpost 3 does not help the applicant either.

Conclusion

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

Appeal

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

Phil Thorpe

Deputy Director, acting for the Comptroller