



PATENTS ACT 1977

APPLICANT Lenovo (Singapore) Pte. Ltd

ISSUE Whether patent application GB1618927.6 complies
 with section 1(2) of the Patents Act 1977

HEARING OFFICER Phil Thorpe

DECISION

Introduction

1. Patent application GB1618927.6 was filed on 9th November 2016 claiming a priority date of 30th November 2015 from United States application US 14/954328. The application was published as GB 2545975 on 5th July 2017.
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 as a program for a computer and as the presentation of information.
3. The matter came before me at a hearing on 15th October 2020. The applicant was represented by Mr Benjamin Echterhoff of Schweiger & Partners.

The Invention

4. The invention relates to projecting battery usage on a device such as a computer or mobile phone. More specifically, it involves determining an estimated length of time for which a battery will power an apparatus based on a user selection of applications that they desire to use concurrently and on how long they wish to use each application for. The estimated length of time is calculated by determining an expected battery usage rate for each of the selected applications, calculating a combined battery usage rate by adding these values to a baseline battery usage rate for applications currently running on the system, and dividing the current remaining battery power by the combined battery usage rate. The estimated length of time is displayed on a display device. The invention is represented in the following figure.

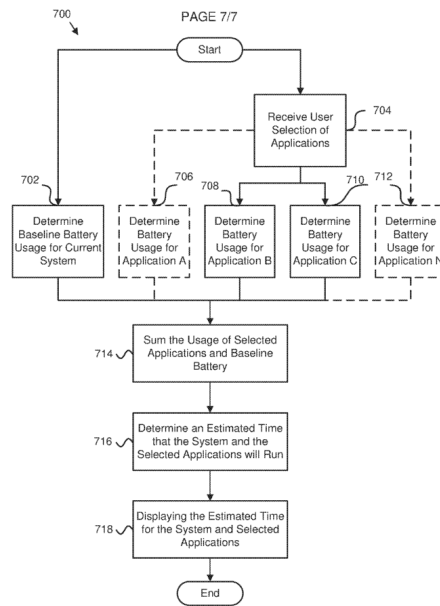


FIG. 7

5. As noted in paragraph 2 of the original description, the length of time a battery will power an information handling device may depend on how the information handling device is used. Paragraph 59 of the description notes that knowledge of an estimated length of time that an application will run allows a user to determine whether they have enough battery capacity to use a desired application, such as making a long phone call, playing a gaming application or using a map or navigation software to navigate between one or more locations.
6. The claims under consideration were filed on 17th June 2019. Claim 1 reads as follows:

An apparatus comprising: a display device; a processor; a memory that stores code executable by the processor to: receive a user selection of which applications the user desires to use and for how long; determine an expected battery usage rate of the applications; determine a baseline battery usage, determine an estimated length of time a battery will power the apparatus if the applications are executed, wherein the estimated length of time the battery will power the apparatus is based on the expected battery usage rate of the applications, the baseline battery usage and a current remaining battery power; and display the estimated length of time on the display device together with a visual representation of the application.

7. There are also independent claims to a method and program product which include much of the wording of claim 1 and I am satisfied that they stand or fall with claim 1.

The Law

8. 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**;*
*(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.

9. 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.
10. 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.
11. 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.*

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

Applying the Aerotel test

Step 1 - Properly construe the claim

12. There is general agreement that no issues of construction arise. The claim is clear. The claimed invention defines an apparatus comprising a processor, a method and a program product for determining an estimated length of time a battery would power the apparatus if a user selection of applications were executed for a preselected length of time. The estimated length of time the battery would power the apparatus is based on the expected battery usage rate of the applications, the baseline battery usage and a current remaining battery power. The estimated length of time is displayed on a display device together with a visual representation of the application.

Step 2 – Identify the actual contribution

13. Jacob LJ addressed this step in *Aerotel/Macrossan* where he noted:

“43. The second step — identify the contribution — is said to be more problematical. How do you assess the contribution? Mr Birss submits the test is workable — it 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 exercise.”

14. Jacob LJ goes on to say that in the end:

“the test must be what contribution has actually been made, not what the inventor says he has made”.

15. The application has been searched. That search revealed that the idea of determining the expected power usage rate of an application on a battery powered computing device is well known. For example, US 2015084778 discloses a mobile device that can alert the user if the battery is unable to power the device over a future interval of usage of the device based on a usage pattern associated with at least one of a user profile and usage of the device. The device can provide an alert to the user of the charging necessary to run a particular application.

16. Also found was US 8958854 which discloses a mobile device battery management program which provides a user of a mobile device with a graphical user interface, via a display and a user input element of the mobile device, for improved battery management functions. The dynamic battery use estimator (see figure 4 below) allows the user to input different configuration settings and see outputs of estimates of projected remaining battery life based on the different configuration settings. The estimator can present an estimate of battery time remaining and can also identify the current battery usage.

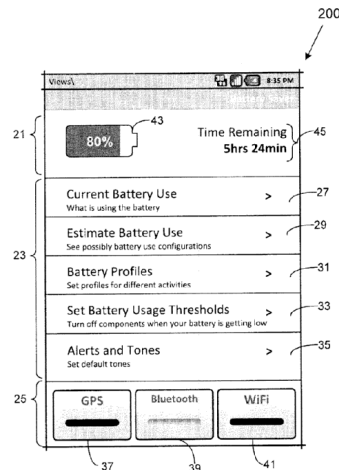


FIG. 4

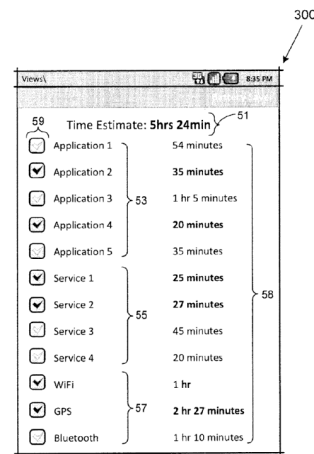


FIG. 5B

17. The user can also try out different configuration settings and obtain an estimate of remaining battery life. For example, as shown in figure 5B above, applications 2 and 4 together with some services are selected and a time estimate for remaining battery life provided at 51. The impact of each application on the total can also be shown at 58. These values can be based on real time battery consumption rates for each application.
18. The device also allows the user to select battery threshold alerts or actions which can include for example selecting particular applications to shut down when the battery level falls to a certain level.
19. In response to the citing of these documents, together with several similar disclosures, the applicant amended the claims. In arguments that were accepted by the examiner, the applicant noted that none of the documents cited disclosed receiving a selection of which applications the user desired to use and for how long and that the estimated length of time the battery would power the apparatus is determined based on the expected battery usage rate of the application, a baseline battery usage and a current remaining battery power.
20. As emphasized by Mr Echterhoff, displaying the predicted amount of time for which a user can use the device does not form the whole contribution and, particularly, does not form the core contribution. Rather he suggests that the contribution is providing on a computing device a prediction of the time that the battery will power the device based on the expected battery usage of user submitted application information together with baseline battery usage and current remaining power.
21. Having considered the prior art and the context of the invention as a whole, I am happy to accept Mr Echterhoff's formulation of the contribution.

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

22. I will consider steps 3 and 4 together.

Program for a computer

23. 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:

- 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.

24. It is important to stress that these signposts are just that. They are not barriers or hurdles that need to be individually or collectively overcome by the applicant. They are rather a non-exhaustive list of some of the factors that can indicate in some cases whether a particular contribution may be technical.

25. Mr Echterhoff argues that receipt of a user input (in this case selecting via the screen the particular applications and the duration that it is desired to run them) is a technical contribution outside of a computer. Mr Echterhoff further considers that any user interaction would provide a technical contribution. He sought support from the recent judgement in *Lenovo (Singapore) Pte Ltd v Comptroller General of Patents*.⁸ There Birss J. held that an invention that automatically chooses, at the point of sale, which of a multiple of payment cards to use or to split the payment between the cards, was not excluded as a computer program or business method. He noted that the invention had a different physical interaction with the world outside the computer and this provided an effect which “is of the right character to satisfy the law”.

26. I do not see a similar physical interaction here. The mere selecting or entering of options on a computer is in itself not enough. As Birss J. noted in *Lenovo*

“As I have said already, I would agree with the reasoning at the end of paragraph 26 if the technical effect relied on resided in pressing a button in a computer system because that is a conventional feature of using conventional computer systems.”

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

⁸ *Lenovo (Singapore) Pte Ltd v Comptroller General of Patents* [2020] EWHC 1706 (Pat)

Those features may be technical in a sense, but they cannot add technical character to make a computer program as such patentable.”

27. Birss J. then went on to explain that in his opinion the invention in *Lenovo* eliminated the need to press a button at the point of sale thus avoiding the possible problem of card clash when multiple payment cards are presented. It is I believe that linkage with the solution of a technical problem that led Birss J. to conclude that the invention there fell on the allowable side of the line. Here however there is no comparable technical problem being solved.
28. Mr Echterhoff suggests that precisely determining the battery life will allow the user to be able to use the device for longer. Any extended use of the device however stems not from the invention but rather from the user responding to the information provided by the invention. In other words, if the user chooses not to run a particular application, then the device will be able to run longer. In contrast with for example the invention in US 8958854 where applications can be automatically closed if the battery life falls to certain level, it is the user that make the choices here rather than the invention. In doing so the user is interacting with the device but the invention is not providing a technical contribution. It is not having a technical effect on a process which is carried on outside of the device.
29. Mr Echterhoff suggests that being able to precisely determine the time a battery will power the apparatus results in the device operating in a new way because it prevents the device running out of power during the usage of the previously determined application. Again, I am not persuaded that the device itself is operating in a new way. Whilst the contribution includes the steps of determining a baseline battery usage and remaining battery power, there is nothing before me to suggest that how these are determined is anything other conventional. Rather what is new is that the user is presented with information that allows it to choose which applications to run. The way that the device runs the chosen applications remains the same. Similarly, the device itself is not running more efficiently or effectively. That it is able to run for longer is the result of how the applications to be run are selected. The problem of battery life, which is a technical problem, is not solved in a technical sense by the user choosing to run fewer applications based on the information provided by the invention.
30. Hence, I do not believe that the *AT&T* signposts assist here. Further taking a step back I am unable to see any technical contribution that is provided by the invention.

Presentation of information

31. The examiner also objected that the invention is excluded as the presentation of information. Whilst the output of the invention is the presentation of information to the user of the device, I am, on balance, satisfied that the generation of that information including use of battery information takes the invention outside of the presentation of information exclusion.

Conclusion

32. 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 therefore refuse this application under section 18(3).

Appeal

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

Phil Thorpe

Deputy Director, acting for the Comptroller