PATTERNS ACT 1977

APPLICANT Lenovo (Singapore) Pte. Ltd.

ISSUE Whether patent application GB1603975.2 complies with the requirements of Section 1(2)

HEARING OFFICER P Mason

DECISION

Introduction

1 The decision relates to patent application GB1603975.2 ("the application") entitled "Selecting a contactless payment card". The application was filed on 8 March 2016 in the name of Lenovo (Singapore) Pte. Ltd and claims an earlier priority date of 9 March 2015. The application was published on 11 September 2016 as GB 2536569.

2 The examiner found the invention defined in the claims to be excluded under Section 1(2) of the Patents Act 1977 ("the Act") as relating to a computer program and a method for doing business as such. The examiner decided that a search would serve no useful purpose and issued a combined search report under Section 17(5)(b) and abbreviated examination report under Section 18(3) on 14 July 2016.

3 Despite several rounds of correspondence and amendment, the applicant has been unable to convince the examiner that the invention is patentable under Section 1(2) of the Act. The matter came before me at a hearing by telephone on 17 September 2019. The applicant was represented by Mr Benjamin Echterhoff of Schweiger & Partners.

4 An amended set of claims was filed on 9 July 2019. It was agreed that these claims should be the ones considered at the hearing and therefore in this decision. The application has not been searched and the examiner has also deferred many aspects of the examination. The only issue for me to decide here is whether the application complies with the requirements of Section 1(2).

The invention

5 The application relates to purchasing one or more items using contactless payment devices such as credit cards, debit cards, key fobs and smartcards that use radio-frequency identification for making secure payment. In the invention, the user presents multiple contactless payment devices to a reader each relating to a
separate payment account. The payment is split automatically between a plurality of payment accounts according to one or more user preferences.

6 The application currently has 11 claims including three independent claims, claims 1, 5 and 9. It was agreed that the three independent claims are of similar scope and will stand or fall together. My decision will consider claim 1 which reads as follows:

A machine-implemented method comprising:
receiving, from a user, one or more user preferences comprising a split transaction preference;
retrieving, from a plurality of contactless payment devices, a plurality of contactless payment identifiers, wherein each of the contactless payment identifiers pertain to a separate payment account;
automatically selecting multiple of the plurality of contactless payment identifiers based on the split transaction preference; and
transmitting a payment request for one or more purchases using the payment accounts corresponding to the selected multiple contactless payment identifiers.

The law

7 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 (among other things) are not inventions for the purposes of this 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 provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to that thing as such.

8 The assessment of patentability under Section 1(2) is governed by the judgment of the Court of Appeal in Aerotel¹, as further interpreted by the Court of Appeal in Symbian². In Aerotel 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;
(3) ask whether it falls solely within the excluded subject matter;
(4) check whether the actual or alleged contribution is actually technical in nature.

¹ Aerotel Ltd v Telco Holdings Ltd & Ors Rev 1 [2007] RPC 7
² Symbian Ltd v Comptroller General of Patents [2009] RPC 1
The Court of Appeal in Symbian made it clear that the four-step test in Aerotel 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 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 that the question of whether the invention makes a technical contribution can take place at step 3 or 4.

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

Application of the Aerotel approach

Step (1): Properly construe the claim

The examiner and the applicant agree that the construction of claim 1 is straightforward. I agree that this step requires no further comment.

Step (2): Identify the actual or alleged contribution

Jacob LJ outlined the considerations to be applied when identifying the contribution in paragraph 43 of Aerotel:

“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. The

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3 AT&T Knowledge Ventures/CVON Innovations v Comptroller General of Patents [2009] EWHC 343 (Pat)
4 HTC v Apple [2013] EWCA Civ 451
5 Gemstar-TV Guide International Inc v Virgin Media Ltd [2010] RPC 10
formulation involves looking at substance not form – which is surely what the legislator intended.”

13 It is useful to consider some of these factors.

14 Regarding the problem to be solved, a user may have multiple contactless payment devices such as credit cards, debit cards, key fobs and smartcards each relating to a different payment account. Different accounts may have different limits or different incentives that the user may wish to take advantage of in a payment transaction and therefore it may be beneficial to split the payment across more than one account. It is time consuming and difficult to do this manually to make best use of preference and economic incentives. The user must either select the required payment devices and wave them one at a time over a reader, or if a set of contactless payment devices are presented to a reader at the same time the system may select one or more devices at random or unintended consequences such as ‘card clash’ may occur. Once the devices have been read, the user must decide manually the required split and implement their choice, for example by interacting with a computer display.

15 The invention works as follows. The user presents a plurality of contactless payment devices for payment of one or more purchases at a reader at a merchant’s point-of-sale (POS) device. Each contactless payment device has a unique contactless payment identifier (e.g. account number) associated with a separate payment account. The process retrieves the contactless payment identifiers and related account data for the presented contactless payment devices. The process also receives one or more user preferences; they may be stored for example on the payment service computer system or on the user’s portable smart device. The user preferences include a preference to allow a ‘split transaction’ i.e. a payment split across more than one payment account. Finally, the process automatically selects multiple contactless payment identifiers from the plurality of retrieved contactless payment identifiers according to the user preferences and transmits a payment request for the one or more purchases using the corresponding selected payment accounts.

16 Mr Echterhoff explained at the hearing that one advantage of the invention is that there can be bigger rewards for the user; for example, different cards may be associated with different incentive schemes. Further, if a certain card has a particular payment limit the transaction can be split amongst cards with different limits to balance the cost. Moreover, he explained, the payment is split between multiple accounts automatically without the user having to indicate at the time of purchase whether or how they want to split the purchase. The user can simply present a wallet of cards at the reader and the payment split is implemented automatically.

17 The applicant and the examiner are in general agreement regarding the contribution. Mr Echterhoff submits in his most recent letter of 9 July 2019 that:

“The actual contribution of the independent claims can be considered as to be able for a user to use multiple contactless payment devices for one single purchase, wherein the multiple contactless payment devices can be used together automatically to split the purchase across the contactless payment devices. This is in particular helpful if one contactless payment device, or an
account linked to that one contactless payment device, does not have enough balance to complete the purchase and a second contactless payment device is used to complete the remaining balance. By doing this automatically, the user does not have to indicate whether or how he wants to split the purchase.”

18 In making my assessment of the contribution, I note that the application has not been searched. I am therefore considering here the alleged contribution. One document, however, US 8113438 B1, was identified by the examiner during routine checking of co-pending family applications and was brought to the attention of the applicant. The disclosure of this document was discussed and considered during the hearing. It is worth considering it briefly here. US ‘438 concerns a purchase transaction at a POS terminal at a retailer or service provider. The customer brings his or her wallet or card holder holding multiple cards into proximity with a reader. The cards are read concurrently using signalling schemes that avoid card collisions. Account data associated with each of the cards is loaded into memory in a contactless manner. Pre-processing can be performed on the data in the memory to determine whether any of the accounts linked to the cards have limits or balances which make the card not-suited for the current transaction session using information that can be provided over a communication link through the POS terminal. A number of payment options are presented to the customer via a display. A rule base can be established and be used by the processor to prioritize the display and highlight preferable accounts for example those with cash-back incentives. The customer manually selects a payment option to use in completing the purchase transaction by interacting with the display e.g. touching the screen. The customer can split a purchase transaction across more than one account through a suitable control provided on the display.

19 Therefore, it is clear from US ‘438, that successfully retrieving a plurality of contactless payment identifiers, each pertaining to a separate payment account, from a plurality of contactless payment devices presented simultaneously at a reader was known at the priority date of the invention. Mr Echterhoff agreed at the hearing that this is the case. Moreover, it is clear from the application under consideration that this multiple card reading step was known because no detail is provided in the application on how this step may be achieved in practice to avoid the unintended consequences such as ‘card clash’ described above. Although I acknowledge that when considering the contribution, it is not acceptable to ‘salami-slice’ the claim and eliminate everything in the claim that is known, it is also important to determine what the inventor has really added to human knowledge. I consider here that the step of retrieving a plurality of contactless payment identifiers was sufficiently well known by the skilled person at the priority date of the invention to not form part of the contribution. It seems to me that the contribution lies in the subsequent step of selecting a subset of the retrieved contactless payment identifiers to allow the payment to be made automatically across more than one account.

20 I note further that the invention is implemented on a computer system using standard hardware and data transmission means. Such conventional apparatus and techniques cannot form part of the contribution.

21 From all of these factors I consider the contribution to be: a computer-implemented method of automatically selecting multiple contactless payment identifiers based on
user preferences to enable a purchase to be split across multiple payment accounts, and allow the user to benefit from different account payment incentives and limits.

Steps (3) & (4): Does the contribution fall solely within the excluded subject matter; check if the contribution is actually technical.

22 The third and fourth steps of the Aerotel 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.

23 At the hearing, Mr Echterhoff considered the AT&T signposts listed above, particularly relying on signposts (i) and (v). It is appropriate and useful to consider the signposts because the invention clearly involves a computer program.

24 Regarding signpost (i), Mr Echterhoff submits that the claimed invention has a technical effect on a process which is carried on outside the computer. In particular, from his most recent letter of 9 July 2019, Mr Echterhoff asserts that:

“By automatically splitting the balance across multiple contactless payment devices, the user does not need to interact with a POS or a merchant as he can present his multiple contactless payment devices and the purchase is automatically split as per his preferences. By making at least two physical interactions from the user obsolete (not having to present multiple contactless payment devices one after another and not having to actively select a split), the process is carried on outside the computer.”

25 In response to these arguments, I agree that an invention that makes a physical interaction obsolete can derive from this a technical effect. It is important, however, to consider the particular physical interactions involved. Firstly, as discussed above, I do not consider retrieving a plurality of contactless payment identifiers from a plurality of contactless payment devices presented simultaneously at a reader to be part of the contribution. Therefore, not having to present multiple contactless payment devices one after another cannot lead to a technical effect in this case.

26 Regarding the second physical interaction, Mr Echterhoff explained further at the hearing that the user no longer needs to actively press a button to select the preferences and influence a payment. He argued that manually pressing a button and the resulting processes involved to register the button press is a technical process and therefore omitting this step through an automatic process is also a technical process carried on outside the computer. In response, it seems to me that the invention lies in receiving user preferences and automatically deciding which payment accounts should be used for the transaction from those retrieved to make best use of incentives and account balances. If done manually the user would need to weigh up the various options and calculate the required split. This would be non-trivial especially for a large number of payment devices. The final step of actually selecting an account by pressing a button once those to be used have been chosen is rather straightforward; implementing a manual button press to select a user preference was well-known at the priority date of the invention. I cannot see how this
step results in the invention having a technical effect on a process outside the computer. The invention therefore does not meet the first signpost.

**27** Regarding signpost (ii), Mr Echterhoff submits in his letter of 9 July 2019 that by processing and splitting the multiple contactless payment devices irrespectively of their payment protocol (e.g. Visa®, Mastercard® etc.) and by processing them irrespectively of the POS software, the technical effect operates at the level of the architecture of the computer. In response, as stated previously, retrieving the contactless payment identifiers from different devices irrespective of the payment protocol lies outside the contribution. The remaining processes regarding selecting particular contactless payment identifiers and therefore payment accounts according to user preferences, are implemented on standard computing devices using conventional transmission means. None of these processes involves a technical effect operating at the level of the architecture of the computer.

**28** I can deal with signposts (iii) and (iv) together. Regarding signpost (iii), Mr Echterhoff argues in his letter of 9 July 2019 that the claimed technical effect results in the computer being made to operate in a new way, as it was not known at the priority date to automatically split a purchase across multiple contactless payment devices. With regard to signpost (iv), Mr Echterhoff submits again in his most recent letter that the program makes the computer a more effective and efficient computer because by automatically splitting a purchase across multiple contactless payment devices, the transaction can be performed much quicker and with less user interaction. In response, automatically selecting contactless payment identifiers according to user preferences may not have been known. Similarly, the transaction according to the invention may be quicker with less user interaction than known transactions. However, any technical advance assisting this improvement, as discussed above, lies outside the contribution. The computer will process the data involved in the same way as it would process any other similar data. Consequently, the computer will run as normal. Neither of these two signposts are met.

**29** Mr Echterhoff did not provide written submissions regarding signpost (v). However, at the hearing he followed a similar reasoning to signpost (i) to suggest that making at least two physical interactions from the user obsolete solves a technical problem rather than circumventing it. I do not need to repeat my earlier response. I add, however, that I see the problem here to be how to automatically split a payment across more than one payment account corresponding to more than one contactless payment device so that the user can benefit from different account payment incentives and limits. The technical aspects of this problem had already been solved, in particular simultaneously retrieving a plurality of contactless payment identifiers from a plurality of contactless payment identifiers. The remaining problem is a non-technical one that has been solved by the invention in a non-technical way by running a computer program on standard (finance-related) data using conventional computer hardware. The invention does not meet the fifth signpost.

**30** It is useful finally to stand back and consider the invention as a whole. In the invention, the user presents say a wallet full of cards or other contactless payment devices to a reader at a POS system and the payment is automatically split between two or more of the corresponding payment accounts without the user making any further input. The contribution, however, lies in a process implemented via a conventional computer system that takes the retrieved financial data (i.e. the
payment identifiers and associated data), considers the user preferences and automatically decides the best split across particular corresponding payment accounts that provides the best outcome for the user for the particular purchase in hand. Considered in this way, the invention has a clear business objective, solving a customer-focussed problem on finance-related data. HHJ Birss QC in Halliburton\(^6\) paragraph 35 discussed the difficulty in assessing business method cases:

> “The business method cases can be tricky to analyse by just asking whether the invention has a technical effect or makes a technical contribution. The reason is that computers are self evidently technical in nature. Thus when a business method is implemented on a computer, the patentee has a rich vein of arguments to deploy in seeking to contend that his invention gives rise to a technical effect or makes a technical contribution. For example the computer is said to be a faster, more efficient computerized book keeper than before and surely, says the patentee, that is a technical effect or technical advance. And so it is, in a way, but the law has resolutely sought to hold the line at excluding such things from patents.”

31 In this case the transaction process may be faster and more efficient than before. In particular, the user does not need manually to weigh up and calculate the various options to determine the best outcome for the purchase. Instead, this process is implemented by a computer program, well-suited to the task in hand. I have carefully considered all the arguments put before me and I cannot find a technical effect that would allow this process to fall outside the excluded categories. Therefore, I consider the invention to relate to a computer program and a business method as such.

32 The remaining independent claims, claims 5 and 9, are directed to similar subject matter having the same underlying inventive concept. I therefore consider these claims to relate to the same excluded categories for the same reasons. Moreover, none of the dependent claims provides the required technical contribution.

**Decision**

33 I find the invention claimed in GB1603975.2 to fall solely within matter excluded under Section 1(2) as a program for a computer and a method for doing business 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**

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

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\(^6\) Halliburton Energy Services Inc's Applications [2012] RPC 129

P MASON
Deputy Director, acting for the Comptroller