



information to the POS system. The POS system communicates a store identifier, a POS identifier, and the transaction amount to the mobile device. The mobile device, in response, communicates the store identifier, POS identifier, and transaction amount to a financial institution via a communications service provider of the customer. The financial institution associates a customer identifier with an account identifier to perform an approval process for the financial transaction. The financial institution communicates an approval number to the POS system to authorize the transaction.

- 5 The latest set of claims filed on 21 April 2017 has six claims including a single independent claim, claim 1, which is set out below.

*A point-of-sale (POS) for performing financial transactions using a mobile device, said POS comprising:  
a processing unit at the POS system configured to enable processing of a purchase transaction of at least one product for purchase by a customer; and  
a wireless interface in communication with said processing unit, and configured to:  
enable said processing unit to communicate with the mobile device being utilized by the customer, and  
prevent the POS system from receiving communication from the mobile device other than an acceptance message to allow the processing unit to communicate via the mobile device to route a store identifier, a POS identifier and a transaction amount to a financial institution of the customer for approval of the transaction amount for the customer;  
wherein said processing unit is further configured to:  
wirelessly communicate the store identifier, the POS identifier, and the transaction amount to the mobile device via the wireless interface, and  
in response to receiving an approval number based on the store identifier, the POS identifier, and the transaction amount from a financial institution server associated with the financial institution of the customer, complete the purchase transaction.*

### **The issues to be decided**

- 6 The issues for me to decide are (i) patentability i.e. whether the invention falls solely within excluded matter as a business method and computer program as such, as set of in section 1(2)(c) of the Patents Act 1977 and (ii) added matter, i.e. whether the amended claims have added subject-matter beyond that contained in the application as filed contrary to section 76 of the Patents Act 1977. I shall deal with each of these in turn.

### **The law**

- 7 Section 1(2) declares that certain things are not inventions for the purposes of the Act, as follows:

*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) 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 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 examiner and the applicant agree that the assessment of patentability under section 1(2) is governed by the judgment of the Court of Appeal in *Aerotel*<sup>1</sup>, as further interpreted by the Court of Appeal in *Symbian*<sup>2</sup>.

9 In *Aerotel*, the court reviewed the case law on the interpretation of section 1(2) and approved a four-step test for the assessment of what is often called "excluded matter", as follows:

*Step one: properly construe the claim*

*Step two: identify the actual contribution (although at the application stage this might have to be the alleged contribution)*

*Step three: ask whether it falls solely within the excluded matter*

*Step four: check whether the actual or alleged contribution is actually technical in nature.*

10 Subsequently, the Court of Appeal in *Symbian* made clear that the *Aerotel* test is not intended to provide a departure from the previous requirement set out in case law, namely that the invention must provide a "technical contribution" if it is not to fall within excluded matter. The *Aerotel* test has subsequently been endorsed by the Court of Appeal in its decisions in both *HTC*<sup>3</sup> and *Lantana*<sup>4</sup>.

11 Lewison J (as he then was) in *AT&T/CVON*<sup>5</sup> 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*<sup>6</sup>. 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.*

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<sup>1</sup> *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371, [2007] RPC 7

<sup>2</sup> *Symbian Ltd's Application* [2008] EWCA Civ 1066, [2009] RPC 1

<sup>3</sup> *HTC Europe Co Ltd v Apple Inc* [2013] RPC 30

<sup>4</sup> *Lantana Limited and The Comptroller General of Patents, Designs and Trade Marks* [2014] EWCA Civ 1463

<sup>5</sup> *AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat)

<sup>6</sup> *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10

- 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 Section 76 of the Act sets out the requirement that no subject-matter should be added to an application after the filing date:

*76(2). No amendment of an application for a patent shall be allowed under section 15A(6), 18(3) or 19(1) if it results in the application disclosing matter extending beyond that disclosed in the application as filed.*

13 I shall turn first to the question of whether subject-matter has been added by amendment of the application after the filing date.

### **Added matter**

14 The examiner contends that amended claim 1 includes added subject matter. Claim 1 has been amended to define the approval number as being “based on the store identifier, the POS identifier and the transaction amount”. The examiner considers the approval number defined in the application as filed to be “an alphanumeric identifier” and whilst there is reference to an authorisation or transaction/payment request that may include the store identifier, the POS identifier and the transaction amount, the request is a separate feature to the approval number.

15 At the hearing Mr Brandon directed me to paragraph [0022] of the application as filed as providing support for amended claim 1. In particular the paragraph at lines 12-19 states that:

*“The telecommunications service provider 112 may communicate information 116 that may include the customer ID, store ID, POS ID, and transaction amount to the bank or financial institution of the customer 106 for processing. In response, the financial institution may determine whether the customer 106 has the financial means to cover the purchase being made by the customer 106 at the POS 104. If so, an approval number 118, which may be an alphanumeric identifier, may be communicated back to the telecommunications service provider 112 for communication to an epay system 114.”*

16 Mr Brandon argued that it flows from the wording used in the paragraph above to say that the approval number is based on the store identifier, the POS identifier and the transaction amount. The financial institution receives the customer ID, store ID, POS ID, and transaction amount and from that information the financial institution determines whether a transaction may be approved. If so, an approval number is generated which is communicated back to the telecommunications service provider. Therefore it follows that the approval number is based on the store identifier, the POS identifier and the transaction amount.

17 I agree with the examiner that there is very little disclosure in the application as filed regarding how the approval number is generated beyond saying it “may be an alphanumeric identifier”. Paragraph [0031] does describe the telecommunications server 206 communicating the customer ID along with other transaction information

to the financial institution server 208. Paragraph [0030] describes the transaction information as including store ID, POS ID, and transaction amount. Paragraph [0031] subsequently states that the financial institution server 208, in response to receiving the customer ID and financial transaction information, may look-up an account number and current balance of the account associated with the customer ID, and determine whether the customer has an available balance in order to process the current financial transaction. If so, then the financial institution server 208 may communicate an approval number to the telecommunications server 206. It is clear that approval of the transaction is authorised or declined based on the current balance in the customer's account and whether the balance is sufficient to cover the transactions amount. It is not clear from the application as filed how or if the store ID and POS ID are used in determining approval of the transaction and subsequent generation of an approval number. I consider it a fair reading of the application as filed through the eyes of the skilled addressee to say that they are not. Therefore I do not consider the application as filed to provide support for the approval number being based on the store ID and POS ID and consequently I consider amended claim 1 to include added subject matter.

### **Excluded matter**

- 18 The examiner maintains that the claims define an invention which consists of a program for a computer and a method for doing business. Her position is set out most recently in her letter of 10 August 2017. Detailed arguments against the examiner's position are contained in the applicant's responses to the examination reports, through their attorney. These arguments were elaborated clearly and helpfully at the hearing by Mr Brandon. Taking all these arguments into account, I must determine whether the claimed invention relates solely to excluded subject matter under section 1(2).

#### *Properly construe the claims*

- 19 The latest set of claims are directed to a POS system for performing a financial transaction using a mobile device being utilized by a customer. The examiner in her latest correspondence states that despite being directed to "A point-of-sale (POS) system for performing financial transactions..." claim 1 stops short of defining steps resulting in the performance of a transaction and as a result all of the claims need to be considered to get a full picture of the invention the applicant seeks to protect.
- 20 At the hearing Mr Brandon stated that he thought the claims were clear and that there was no issue in construing them.
- 21 I consider claim 1 to be set out in clear terms. The claim refers to "A point-of-sale (POS) system for performing financial transactions..." i.e. a POS system suitable for performing financial transactions and subsequently sets out the features of the POS system which define the invention. Paragraph [0040] describes the POS system as covering financial transactions inside or outside a retail environment and that the POS may include cash registers and any other type of point-of-sale, including a self-checkout system, home communications system (e.g. computer, gaming system, television) to perform an online purchase, or any other purchase environment.

- 22 The POS system includes a processing unit and a wireless interface. The wireless interface prevents communication of information unless an acceptance message is received from a mobile device. Upon receipt of the acceptance message the processing unit communicates store ID, POS ID and transaction amount via the mobile device to a financial institution of the customer for approval of the transaction. The POS system of claim 1 does not include the mobile device. The hardware of the POS system is entirely conventional and the invention is enabled through coding, loading and running computer software to make the hardware operate in a way that provides the desired result.
- 23 However whilst I consider claim 1 to be clear in its scope I do not consider it to clearly set out all of the features of the invention. I agree with the examiner that all of the claims need to be considered to get a full picture of the invention the applicant seeks to protect. In order to perform the financial transaction the step of communicating the store ID, POS ID and transaction amount from the mobile device to the customer's financial institution is required however this feature (which is present in claim 5 and/or claim 6) is absent from claim 1.
- 24 The dependent claims also appear to be sufficiently clear such that there is no issue with their construction.

*Identify the actual (or alleged) contribution*

- 25 In paragraph 43 of *Aerotel*, it is made clear that identifying the contribution is probably best summed up as determining what the inventor has really added to human knowledge, and this involves looking at the substance and not the form of the claim (as construed in step one). However, the court in *Aerotel* acknowledged that, for a patent application (as opposed to a granted patent), it may only be possible to identify the alleged, and not the actual, contribution.
- 26 The examiner does not consider that the contribution lies in a new arrangement of hardware, nor in elements of the invention performing in a new or non-conventional way. Her position is that use of one-to-one POS to mobile transaction is well known and that any contribution clearly lies in the programming of known hardware, not within any aspect of the hardware itself.
- 27 The examiner considers the contribution to relate to performing a transaction payment using a customer's mobile device by communicating transaction information to the mobile device from a POS terminal, so that the transaction payment is performed without communicating any account information of the customer directly from the mobile device to the POS system. The POS system is only able to communicate with the mobile device after an acceptance message from the customer has been received. The contribution avoids the disadvantage of account information potentially being intercepted within a retail store environment.
- 28 The examiner has also suggested a second contribution as preventing the POS system from receiving anything other than an acceptance message from the mobile device, this minimizing the potential for hacking from an unauthorized user.
- 29 At the hearing Mr Brandon stated that he was content to stand by the contribution outlined in his previous correspondence in response to the examiner's exam reports

and lies in enhanced security by restricting one-to-one wireless communications between the POS system and the mobile device to protect customer data and account information from being intercepted and preventing malicious attacks on a POS system. Performing a transaction using a mobile device identifier, a store ID, a POS ID, and an approval number in the manner claimed enhances security of the payment system as compared to conventional payment systems. The system significantly reduces the chances of third parties intercepting the wireless transmissions between the mobile device and the POS system to steal a customer's ID and/or account information.

- 30 Mr Brandon also questioned the approach adopted by the examiner in assessing the contribution. He explained that analysing the contribution was not merely an exercise in ticking off all the features of the claim as one might do in analysing novelty or inventive step and saying that if they are known they do not form part of the contribution. To the contrary a claim comprising a combination of known features can still have a technical contribution. He further stated that a more holistic approach needs to be taken when analysing the contribution made by the claims by looking at the application as a whole. Therefore in the present application one would see that the contribution lies in the enhanced security of a communication system that takes part in a financial transaction.
- 31 It would seem that the examiner's and attorney's interpretation of the contribution are pretty similar to one another. Having considered both interpretations I will consider where the contribution lies. One question is whether there is a new combination or arrangement of hardware in the sense that one was found to exist in *Aerotel*. In that judgment, the system as a whole was (at that point, although matters changed during later litigation) held to be new, and the contribution made was held (at para 53) to be a new system since "the key to it is a new physical combination of hardware".
- 32 I think in the present case it is clear that the devices are not combined, arranged or networked to each other in new physical ways. Each device or application communicates securely with the communication system in a known way, and the devices and applications are not connected to each other in a new way or via new means.
- 33 Furthermore, I do not see that there is anything added to the sum of human knowledge in terms of the manner in which the elements of the system interact with each other. A communications link is created between the POS system and the mobile device and unless an acceptance message is received by the POS system from the mobile device no information or data is exchanged down the link, which makes it more difficult for a hacker or malware to obtain sensitive or personal information. But the conventional elements and networks of the system are not in themselves more secure or interacting in a new manner. Thus in my view, the interactions and links are not ones which have been added to the sum of human knowledge by the present invention.
- 34 In my view, this points away from characterising the contribution as wide as a new approach to transaction of secure data. It seems to me that the contribution is contained in the steps that are taken to establish a communications link whereby particular information is exchanged. In my view, the contribution made by the

invention is in the security of a communication system in a financial transaction in which communication from a POS system to a mobile device is prevented until an acceptance message from the mobile device has been received. Once received communication of transaction information from the POS system to the mobile device is permitted.

*Does the contribution fall solely within excluded matter / is it technical in nature?*

- 35 What I must now decide is whether the contribution identified above relates solely to a program for a computer or a scheme, rule or method for doing business. This corresponds to step three of the *Aerotel* test. The fourth step of the test is to check whether the contribution is technical in nature. In paragraph 46 of *Aerotel* it is stated that applying this fourth step may not be necessary because the third step should have covered the question. This is because a contribution which consists solely of excluded matter will not count as being a "technical contribution" and will not, as the fourth step puts it, be "technical in nature". Similarly a contribution which consists of more than excluded matter will be a "technical contribution" and so will be "technical in nature". In this case, the arguments concerning whether the invention is excluded are very much wrapped up with the question of whether the contribution is technical in nature. Given that, I have considered the third and fourth steps together.
- 36 The examiner's contention is that the contribution is a computer program and also a business method. She says that the contribution is not technical, since any technical aspects of the invention are conventional. There is no new arrangement of hardware, the wireless communication is not made more secure and the avoidance of account information being intercepted within a retail store environment relates only to administrative steps of a financial transaction. Therefore it is merely a method of doing business. Furthermore whilst the method is implemented using computer apparatus, this is not sufficient to give rise to a technical effect. Better ways of conducting business using conventional computer apparatus are not patentable (see *Halliburton*<sup>7</sup>). The examiner has also analysed the contribution in light of the *AT&T/CVON* signposts and found nothing therein to prevent the contribution from falling into the computer program exclusion. The attorney put forward a number of reasons why he believes this view is wrong.
- 37 Mr Brandon argued that the contribution lies in the overall enhanced security of a communication system in a financial transaction and not in any individual known element. Thus the contribution is technical in nature as it restricts the communication between the POS system and the mobile device so that no account information is transmitted to the POS system therefore enhancing security of the transaction process and reducing the chances of account information being hacked by third parties. Therefore the contribution in his view is more than merely a method doing business and just because it is used in business does not make it a method of doing business. Furthermore as the contribution is directed to a POS system and addresses and solves a technical problem it is allowable for it to be implemented by a computer program and therefore does not fall into the computer program exclusion.

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<sup>7</sup> *Halliburton Energy Services Inc* [2011] EWHC 2508 (Pat), paragraph 35

- 38 Mr Brandon went on to describe an analogy of a vending machine whereby an invention arises for determining whether the correct coins have been inserted i.e. distinguishing between a pound coin and a ten pence coin and so on. Even if the analysis was being done by electronic means there would be a technical solution to a technical problem. This would form part of a financial transaction however just because it is used in business does not make it a method of doing business. I'm not convinced the analogy is akin to the present contribution which lies in the prevention of communication of information between the POS system and the mobile device until the acceptance message has been received from the mobile device by the POS system. I would say it was more analogous to a vending machine having restricted use unless a PIN ("acceptance message") is entered to authorise use. Once the customer provides the vending machine with the PIN the transaction is permitted. If the contribution in such a vending machine lay in only allowing use once the correct PIN had been entered then it may also fall into the exclusions under section 1(2)(c). However, the usefulness of such speculation is of no use to me in this decision. I do agree with Mr Brandon that just because a contribution made by an invention is used in business does not make it a method of doing business.
- 39 I have weighed up the arguments put forward by the examiner and the attorney and my view is as follows. I have found the contribution to lie in the security of a communication system in a financial transaction in which communication from a POS system to a mobile device is prevented until an acceptance message from the mobile device has been received. Once received communication of transaction information from the POS system to the mobile device is permitted. This amounts to no more than ensuring that the correct communication link is made between the correct parties i.e. the POS system and the mobile device, prior to any transfer of personal account data.

*Business method*

- 40 I am not convinced by Mr Brandon's argument that the contribution lies in the overall enhanced security of a communication system in a financial transaction and is thus technical in nature. From the contribution I have identified it follows that I agree with the examiner that any improvement in network security arises from the way in which the invention restricts information from being transmitted via the communications system, and ensures that certain information is not sent through until an acceptance message is received. For this reason, I do not see that the improvement in security arises from a contribution which makes improvements of a technical nature. I agree with the examiner that there is no new arrangement of hardware and the wireless communication is not made more secure by the features of the invention. The avoidance of account information being intercepted within a retail store environment relates only to administrative steps of a financial transaction.
- 41 In my view, a contribution which amounts solely to identifying users with a particular transaction and exchanging particular information when permission is granted is one that is purely administrative in nature, and so the contribution made by the invention to relate a method of doing business.

*Computer program*

- 42 I will now consider the computer program exclusion. In terms of the other signposts, there is not a technical effect on a process carried on outside the computer (or network), and there is no suggestion that the claimed technical effect operates at the level of computer architecture (in terms of the way a computer runs), or makes the computer operate in a new way, or more efficiently or effectively as a computer. In terms of the fifth signpost, I am not convinced that the contribution made by the invention has solved a technical problem with a more secure communications link between the POS system and the mobile device, and transactions made over them. It circumvents the issues that exist when transactions are carried out by only the passing of information once the acceptance message has been received, rather than solving technical problems with the non-secure connections.
- 43 I am therefore not convinced that the contribution made by the invention is a technical one. It relates only to administrative steps of a financial transaction and that it does not extend beyond being more than a program for a computer as such. As a result, it fails to comply with steps three and four of the *Aerotel* test and so the invention falls solely within excluded matter.

### **Conclusion**

- 44 I conclude that the claimed invention is excluded from patentability under section 1(2)(c) because it is a method of doing business and is no more than a program for a computer. Furthermore amended claim 1 includes added subject matter beyond that contained in the application as filed contrary to section 76.
- 45 Based on the information before me, I cannot identify material in the specification that could reasonably be expected to form the basis of a patentable claim. I refuse the application under section 18(3) for failure to comply with sections 1(2)(c) and 76.

### **Appeal**

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

**C L Davies**

Deputy Director, acting for the Comptroller