Intellectual Property Office

BL O/183/22

03 March 2022

PATENTS ACT 1977

APPLICANT	truRating Limited
ISSUE	Whether application GB 1419546.5 complies with Section 1(2) of the Patent Act 1977
HEARING OFFICER	Dr Stephen Brown

DECISION

Introduction

1 Patent Application GB 1419546.5 has a filing date of 3rd November 2014 and was published as GB 2534342 on 27th July 2016. The Examiner issued a report under Section 17(5)(b) indicating that a search would not serve a useful purpose due to the invention being excluded under Section 1(2) of the Act, in the Examiner's view. Despite several rounds of correspondence, the applicant has been unable to convince the Examiner that the application is allowable under Section 1(2) of the Act. The applicant thus requested a hearing to resolve this matter.

2 This took place on 13th December 2021 by video. The applicant was represented by Mr Nigel Tucker of Boult Wade Tennant, to whom I add my thanks for his skeleton arguments. The Examiner, Dr Aled Morris, and my assistant, Dr John Cullen, were also present at the hearing.

The Application

3 The application concerns a system 100 for collecting customer ratings from a PIN entry device (PED) 31. During a transaction, the PED receives a PIN and displays a question about a service associated with the transaction. The PED is then used to input a rating for the service.

4 A conventional card payment and point-of-sale (POS) system includes PED hardware 31, payment application software 32, scanner hardware 22 and a POS computer programmed with a POS software module 21 and a scanner driver 23. The POS system may be a till. The collection of customer ratings is achieved by adding to these conventional components three new software components: a payment application plug-in 132, a POS proxy module 121 and a scanner pass-through driver 123. Figure 2 of the application (reproduced below) shows the system including

these new software components. The scanner pass-through driver conveys (e.g. bidirectionally) signals between the POS module and the scanner driver but also copies these signals and sends a copy of each of them to the POS **proxy** module. The POS **proxy** module, in response to receiving scanner signals via the scanner **pass-through** driver during a transaction, triggers the payment application **plug-in** to cause a PIN entry device to display a question and to receive a rating from a customer responding to the question.

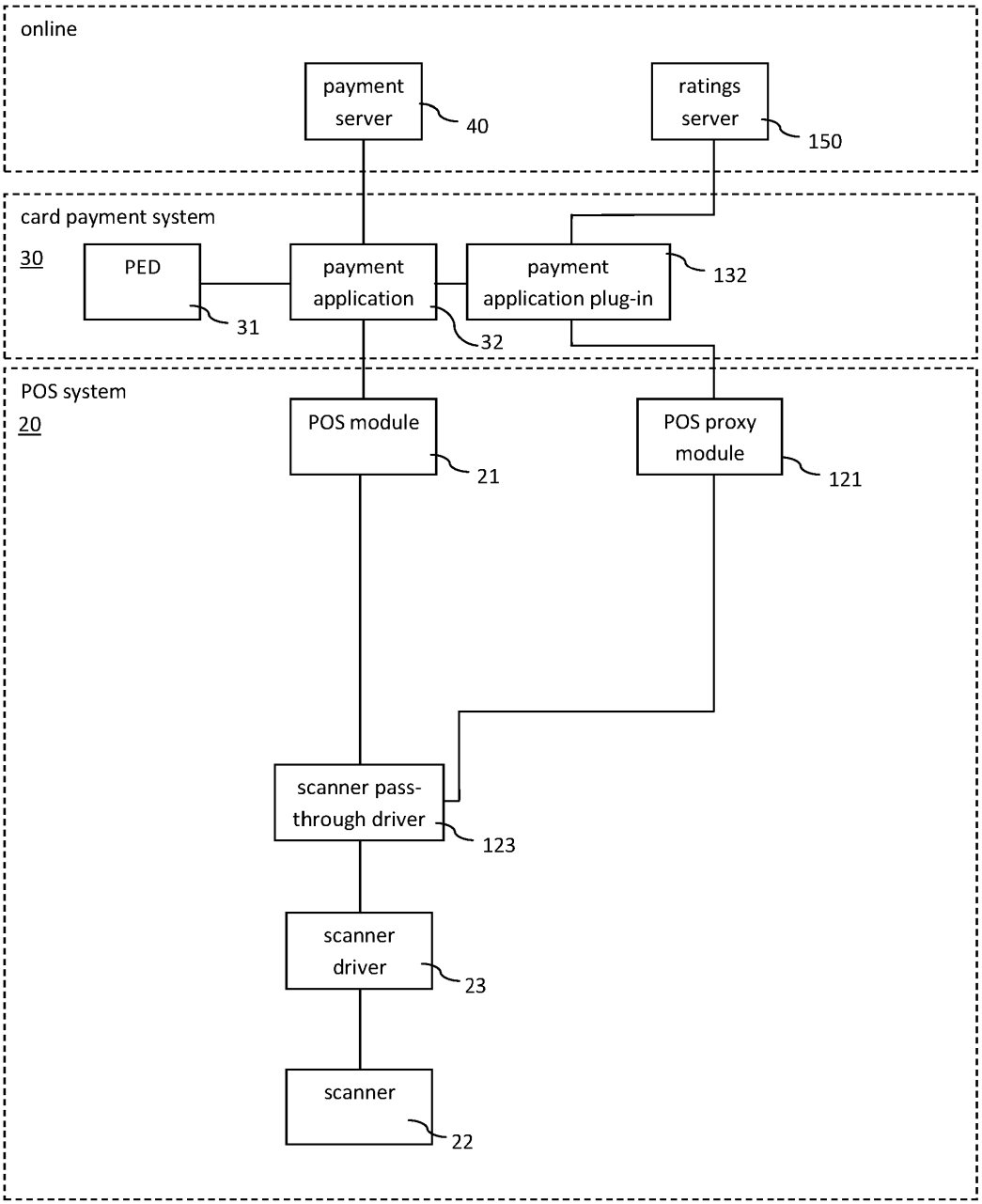

Figure 2

The Claims

5 The claims have not been amended. Claim 1 is reproduced below, with slightly modified formatting to aid clarity.

Claim 1

A system operable to collect customer ratings during a transaction, the system comprising:

an electronic point of sale system comprising:

a scanner operable to read encoded information relating to merchandise to be purchased as part of the transaction;

a computer programmed to effect operation of the electronic point of sale system and including

a POS module programmed to manage operation of the scanner,

a scanner driver operable to convey scanner signals between the POS module and the scanner wherein the scanner signals include merchandise signals providing information of merchandise just scanned,

a PIN entry device operable in association with the electronic point of sale to arrange a card payment for the transaction;

a payment application operable to manage operation of the PIN entry device, and programmed to receive a payment collection signal from the POS module, to operate the PIN entry device to collect card details including a PIN from the customer to effect payment of the transaction and to provide a payment confirmation signal to the POS module to confirm whether or not a payment was successfully made using the PIN entry device;

a POS proxy module;

a payment application plug-in operable in conjunction with the payment application;

a scanner pass-through driver operable to pass the scanner signals between the POS module and the scanner while collecting information from the scanner signals and sending that information to the POS proxy module;

wherein the POS proxy module is programmed to cause collection of a customer rating during the transaction by using the information received from the scanner pass-through driver to initiate a customer rating collection session, to send a customer rating initiation signal to the payment application plug-in, and wherein the payment application plug-in is programmed to cause the PIN entry device to display a question on the PIN entry device prompting the customer to enter a rating, and to collect the rating entered by the customer

6 There is only one other independent claim, method claim 14. Claim 14 is similar to claim 1 but is silent in respect of two conventional pieces of software referred to in claim 1: the payment application and the scanner driver. Mr Tucker agreed at the hearing that it is sufficient to consider only claim 1. Claim 14 will stand or fall with my decision on claim 1.

The Law – Section 1(2)

7 The section of the Act concerning inventions excluded from patentability is Section 1(2). This reads:

> "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 –
>
> ...
>
> (c) a scheme, rule or method for performing a mental act, playing a game or doing business or a program for a computer;
>
> …
>
> 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 In order to decide whether an invention relates to subject matter excluded by Section 1(2), the Court of Appeal has said that the issue must be decided by answering the question of whether the invention reveals a technical contribution to the state of the art. The Court of Appeal in *Aerotel/Macrossan*[1] set out the following four-step approach to help decide the issue:

> 1) Properly construe the claim;

[1] Aerotel Ltd v Telco Holdings Ltd (and others) and Macrossan's Application [2006] EWCA Civ 1371

2) Identify the actual (or alleged) 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.

9 The case law on computer implemented inventions has been further elaborated in *AT&T/CVON*[2] which provided five helpful signposts to apply when considering whether a computer program makes a relevant technical contribution. In *HTC v Apple*[3], Lewison LJ reconsidered the fourth of these signposts and felt that it had been expressed too restrictively. The revised 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 make the computer a better computer in the sense of running more efficiently and effectively as a computer; and

v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.

Application of the Aerotel Test

Step 1 - Properly construe the claim

10 The first step of the Aerotel test is to construe the claims. Construing the claim does not present a major problem in this case, however it is worth clarifying a few points. Firstly, it is common ground that the payment application, the POS module, the scanner driver, the payment application plug-in, the POS proxy module and the scanner pass-through driver are all software components.

11 Secondly, the “system” of the first line of claim 1 includes several components which could sit outside of the point-of-sale (POS) system of the claim. For example, the PIN entry device (PED) 31 could be external to the POS system 20 (see Figure 2 and lines 11-13 of page 3 of the description).

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[2] AT&T Knowledge Ventures LP and CVON Innovations Limited v Comptroller General of Patents [2009] EWHC 343

[3] HTC v Apple [2013] EWCA Civ 451

12 Thirdly, the locations of several of the software components are not specified in claim 1. As noted at lines 15-19 of page 3 and lines 21-23 of page 15 of the description, the payment application 32 may be provided on the PIN entry device (PED) 31, or alternatively may reside with the POS module 21 on the computer of the POS, or indeed it may reside on another computer. As Mr Tucker observed in his skeleton arguments, payment application plug-in 132 may reside with the payment application (lines 3 and 4 of page 4 of the description) and therefore could be external to the PED. Similarly, I agree with Mr Tucker that lines 2 and 3 of page 4 suggest that the POS proxy module need not necessarily reside on the computer of the POS system.

13 Thus far, Mr Tucker and I are in agreement on the construction of the claim. However, Mr Tucker went on to suggest in the skeleton argument that I should consider a generalised version of claim 1, set out in the skeleton. This generalised version is stripped of all application context, or "business method context" as Mr Tucker put it. The generalised version removes references to ratings collection, the point-of-sale system and the PIN entry device, and instead refers to the collection of data, an electronic system and a data entry device, respectively. And yet, Mr Tucker did not propose the generalised version of claim 1 as an amendment, and nor could he because it would almost certainly add matter. Clearly, I must base my decision not on any generalised version of claim 1, but on the claim on file.

Step 2 - Identify the contribution

14 From *Aerotel (*paragraph 43) the identification of the contribution involves looking at the substance rather than the form of the claimed invention. Furthermore, this step should essentially be a matter of determining what it is the inventor has really added to human knowledge and this involves (quoting from Jacob LJ) "*an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are".*

15 It is useful to consider these three factors in turn. In his skeleton argument, Mr Tucker explained that the POS module is a proprietary part of a POS system. This makes implementing changes to allow the PED to accept ratings data problematic, if not impossible. This neatly summarises the problem which the invention seeks to address. Namely, how can one adapt the PED to capture extra inputs without altering the POS module or PED software directly?

16 The invention of claim 1 deals with this problem by adding three new software components to the conventional POS system: a scanner pass-through driver, a POS proxy module and a payment application plug-in. The POS proxy module, in response to receiving scanner signals via the scanner pass-through driver during a transaction, triggers the payment application plug-in to cause a PED to display a question and to receive a rating from a customer responding to the question.

17 This provides the advantage that ratings data can be collected without requiring adaptation of the POS module. Further, as Mr Tucker observed in the hearing, the inputs and outputs of the POS module are unchanged. This is apparent from Figure 2.

18 Although the Examiner declined to perform a search, the Examiner's final communication did refer to documents cited against the EP equivalent of this application, EP3215992. As part of my assessment of what the inventor has really added to human knowledge, it will be helpful to consider these citations in more detail.

19 GB2456346 discloses a point-of-sale (POS) system including a POS terminal 1, a processing system 2 and a cash-register 4. The system is used to receive a customer rating using the keypad of the POS terminal. The processing system 2 has first and second modules 30, 31 for performing PIN tasks and tasks involving financial information. The processing system also includes a "third module" 32 for handling the transmission of rating questions to the customer and for receiving customer ratings. This third module resembles the POS proxy module of claim 1 of the present application. However, there is no disclosure that either of the first or second modules communicate with the scanner, as is the case for the POS module of claim 1 of the present application.

20 This much is summarised in the paragraph at the top of page 9 of GB2456346, which reads:

> "*The first, second and third modules may be provided independently of each other, such that they can be updated or amended independently...the supplier of the hardware systems for the processing system 2 and terminal 1, may make interface information available such that third-parties can produce and make available software to perform the functions of the third module, while the first and second modules remain confidential. It is therefore possible for third parties to produce software to provide additional functionality on the terminal 1 or processing system 2, without affecting the security and integrity of the secure sections handling financial and identification information*."

21 US 2012/116846 discloses a new card payment terminal which displays a question to a customer, and which receives a rating from the customer in answer to the question.

22 WO 2013/008041 discloses a method of enhancing a legacy POS system. As shown in Figure 1, the legacy system includes a PIN pad 9, a printer 5, a scanner 7, and a POS terminal 3 including POS module 17 and a payment application 21. In the legacy system, an "OPOS Device" (32, Fig. 2), essentially a driver stack, provides an interface between the POS application and a physical device 23 such as the printer or scanner. The invention of WO 2013/008041 lies in the addition of a new "virtual driver" (40, Fig. 3) to the driver stack, which allows data may to be received from (or/and sent to) a 3rd party system 44. The virtual driver enables a 2D barcode (50, Fig. 5), containing an identifier for a transaction, to be printed onto a customer receipt. The customer can then scan the receipt using their mobile device 54 to access a rating survey 62. A stated advantage of WO 2013/008041 is that it provides a mechanism for enhancing a POS system without requiring modification of the proprietary POS module.

23 Both GB2456346 and US 2012/116846 demonstrate that it was known to collect customer ratings using a PED. GB2456346 additionally discloses adding a new software module, to enable the collection of ratings, without affecting any existing

software modules. In WO 2013/008041, there is the collection of ratings data but it is not through a PED.

24 At the hearing, Mr Tucker defined the contribution to be:

"*The adaptation of an existing EPOS system in a way which allows new types of data to be collected given the technical limitations of a PIN entry device and a POS computer running a POS module."*

25 As, such Mr Tucker argued that the contribution was, in essence, a better POS system and thus not just programme for a computer. While this line of argument has some merit, I am not wholly content with it as it stands. Firstly, the general reference to "new types of data" is, in my opinion, a little too broad. The collection of customer ratings is an essential part of the invention. Secondly, the cited prior art shows that receiving customer ratings from a PED and POS computer is known. As such that cannot be the entirety of the contribution.

26 From this, I would consider the contribution to be more narrow than Mr Tucker. To my mind the key difference that the current application has added to human knowledge, over the disclosure of GB2456346, is the addition of the pass-through driver which allows the system to collect ratings data in parallel to its normal function. Specifically, I consider the contribution to be:

"The adaptation of an existing EPOS system by collecting signals passing between a scanner driver and a conventional POS software module, and thereby enabling the collection of a customer rating through a PIN entry device, without requiring adaptation of the POS software."

Step 3 – Does the contribution fall solely within excluded subject matter

i. Program for a computer

27 The third step of the *Aerotel* test involves asking whether the identified contribution falls solely within the excluded categories. Clearly the invention is enacted by software running on a computer. By computer, I mean a single computer or a system of computers such as a computer of the POS and a computer of the PED. This is consistent with the approach taken by Birss J in *Lantana*[4]. I will begin by considering whether the identified contribution is solely a program for a computer, as such. It is useful here to consider the five AT&T signposts.

28 The skeleton arguments did not address the first signpost. However, at the hearing, Mr Tucker observed that the collection of (ratings) data involves the use of hardware devices, in the form of the scanner and the PED. He regarded the scanning of items and the inputting of data using the PED as physical interactions which occur outside of the computer. Mr Tucker argued that these physical interactions satisfy the first signpost. However, I believe that this could only be the case if the invention involved a different physical interaction with the world outside the computer, as compared to what had gone before. There is no suggestion that the scanner interacts with the

[4] Lantana Ltd v Comptroller-General of Patents [2013] EWHC 2673 (Pat), at [30]

outside world in a different way than it does in a conventional POS system. I am reassured that such an approach is consistent with the decision in *Lenovo*[5]. Furthermore, receiving customer ratings through a PED is known from GB2456346 and US 2012/116846, so the external physical interaction is not part of the contribution. Thus the contribution does not meet the first signpost.

29 I'll now turn to the second signpost. As previously discussed, the skeleton arguments set out a generalised version of claim 1. Mr Tucker argued that in this generalised version "other data" can be input via a data entry device without requiring adaptation of a software module. Presumably, by "other data" Mr Tucker means data other than that which the data entry device was originally intended to receive. Mr Tucker sought to persuade me that this demonstrated that the "technical underpinnings" did not rely on either the particular type of data being processed, nor the application being run. He attempted to illustrate this point by re-imagining the invention as a safety system governing the operation of an industrial process.

30 However, as I have already explained, I must base my decision on the claims on file, and not on some generalised or re-imagined version of the claims. The invention relates to one particular application - the collection of customer ratings data. There is no technical affect at the architectural level of the computer. I can see no technical effect on scanning operations or payment operations, or on the internal workings of the computer. Thus, I consider that the contribution fails the second signpost too.

31 Mr Tucker argued that the invention met the fourth signpost and sought to draw parallels between the present invention and *HTC/Apple*[3]. In *HTC/Apple*[3], a new interface was provided, making it easier for programmers to write application-software for a multi-touch device. Mr Tucker asserted that the present invention also allowed easier programming of the system to accept new types of data entry by writing new software modules rather than having to re-program the POS module.

32 In paragraph 57 of *HTC/Apple*[3] Kitchin LJ stated that the invention related to:

> "*the basic internal operation of the device and applies irrespective of the particular application for which the device is being used and the application software which it is running for that purpose.*"

33 At paragraph 58, he also considered it to provide

> "*an improved device…not because it now runs different application programs but because it is, as a device, easier for programmers to use*".

34 By contrast, the present invention applies to only one application – collecting customer ratings. I can see no technical effect relating to the basic internal operation of the system. Furthermore, I can see nothing in claim 1 to support Mr Tucker's assertion that the contribution is an improved programming interface. The facts in the present invention are very different from those of HTC/Apple and the comparison with HTC/Apple fails to persuade me that the present invention provides a better computer.

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[5] Lenovo (Singapore) v. Comptroller General of Patents [2020] EWHC 1706 (Pat)

35 Mr Tucker also referred to BL O/748/18[6], in relation to the fourth signpost. This Office decision concerns a wrist-top computer which obtains physical data such as physiological measurements, interprets the data and communicates the result to the user. The interpretation step allows a user to input a mathematical formula of their choice and apply this to the physical data. The interpretation step could for example allow a user to view expended energy in units of chocolate bars rather than in Calories. Mr Tucker drew my attention to paragraphs 45 and 46 of the decision. Paragraph 45 states:

> "*I do, however, consider the wristop computer of the Application to operate in a new way compared with prior art devices in the sense that users now have greater flexibility in how they can monitor their exercise program. This requires interface facilities and interpreter software not needed and therefore not provided in the prior art devices."*

36 Further, paragraph 46 of the decision identifies that wrist-top devices:

> "*have particular problems related to their small size and intended use including the need to minimise memory and power consumption*".

37 The Hearing Officer decided that the wrist-top computer represented "*a better wrist-top computer with improved functionality*" which was therefore not considered excluded under Section 1(2).

38 Based on the above, Mr Tucker made the following arguments: i) like the wrist-top device of BL O/748/18[6], the PED and POS system of the present invention also have limited processing power and availability of memory and the present invention minimises the use of EPOS system resources; ii) the present invention provides greater flexibility for programmers to use the PED to gather new types of data and iii) as with BL O/748/18[6] the system of the present invention represents a better computer system with improved functionality.

39 I will consider these points in turn. In relation to point i), the description of the present application does not refer to limited processing power or memory of the PED or the POS system. From paragraph 46 of BL O/748/18[6] it seems that the ability of the wrist-top computer to operate "*in a memory efficient way which is compatible with the structure and use of the device*" was a key factor in the decision. I have not been presented with any evidence to suggest that using the new software components of claim 1 of the present invention would be any more efficient in the use of memory or processing power than a POS module amended to provide the ratings collection capability. I am therefore not satisfied that the present invention provides a computer that is better by virtue of using memory more efficiently or reducing processor power requirements. Incidentally, another key factor in the Hearing Officer's decision appears to have been the fact that the wrist-top computer read in measurable data from the real world. In the present application no physical measurement is performed. The input is a subjective rating provided by a customer.

40 Turning now to Mr Tucker's second point, I'm afraid I can't identify in the current invention the programming flexibility Mr Tucker refers to. In relation to point iii), I note that although the invention claimed can be said to offer additional functionality

[6] BL O/748/18 [Suunto OY]

relative to a conventional POS system and PED combination, it does not appear to offer any greater functionality over GB2456346 or US 2012/116846. These documents also offer the capability to receive a "new type of data" (i.e. ratings data) through a PED. In any case, as should be clear from my comments above on the comparison with HTC/Apple, even if the collection of ratings data could be regarded as offering improved functionality, the improvement would not be at the level of the basic internal operations of the computer and so the computer of claim 1 cannot be regarded as a better computer. Taking all of the above into account, I conclude that the present invention does not satisfy the fourth signpost.

41 I have so far considered the first, second and fourth AT&T signposts and decided in each case that they are not met. Mr Tucker did not provide any submissions in respect of the third or fifth signposts, so I will cover them only briefly. Regarding the third signpost, I can see no evidence of the computer itself operating in a new way. What it is doing is performing a known operation, i.e. the collection of customer ratings, using new software, which is relevant only to that particular application. The current invention thus does not meet the third signpost.

42 Considering the final signpost, the problem being overcome is how to collect customer ratings without adaptation of a POS module. The problem here arises due to the proprietary nature of the POS module. This appears to be a non-technical problem, one of rights ownership. Furthermore, the problem is solved by running a computer program on an otherwise standard system. The contribution thus does not meet the fifth signpost either.

43 In short, I conclude that the contribution does not have any technical effect outside of software running on otherwise standard hardware. I thus consider the invention to be excluded under Section 1(2) as a computer program as such.

ii. Method of doing business

44 The examiner also objected to claim 1 as being excluded as a method of doing business. Having already found that claim 1 is excluded as a computer program, there is no real need for me to consider this further point, but for the sake of completeness I shall briefly do so.

45 The skeleton argument acknowledges that the collection of customer ratings involving a POS system frames the invention "in the context of a business method". However, Mr Tucker argues that the invention could have been framed in any context. To my mind however, there is little to be gained from imagining what could or could not have been claimed. What is important is what is claimed. The invention here clearly lies in the field of business. However, I accept that is not the end of the matter. Following Lenovo[5], it is necessary to also consider what more is the invention than a business method? As I have reasoned above, I cannot see anything technical in the contribution beyond a computer program running on conventional hardware. I therefore conclude that claim 1 is also excluded as a combination of a method of doing business and a program for a computer as such.

Step 4: Is the contribution technical in nature

46 The final step of the *Aerotel*[1] test is to check whether the contribution is technical in nature. Since I have decided that it does not have a technical effect beyond that of a program running on a computer it also fails this step of the test. I thus decide that claim 1 is excluded under section 1(2).

47 The other independent claim, claim 14, is directed to similar subject matter as claim 1 and makes the same contribution. I therefore consider claim 14 to be excluded as a program for a computer and a business method as such for the same reasons. Moreover, none of the dependent claims provide any further technical contribution.

Decision

48 I have decided that the invention defined in claims 1 and 14 falls solely within matter excluded under Section 1(2) as a program for a computer and a method for doing business as such. Having reviewed the application, I do not consider that any saving amendment is possible. I therefore refuse this application under Section 18(3).

Appeal

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

Dr Stephen Brown

Deputy Director, acting for the Comptroller