Intellectual Property Office

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PATENTS ACT 1977

APPLICANT	Reward Technology Limited
ISSUE	Whether patent application GB1309088.1 complies with sections 1(1) & 1(2) of the Act
HEARING OFFICER	Stephen Brown

DECISION

Introduction

1 Patent application GB1309088.1 relates to the registration of loyalty cards. It was filed on 20th May 2013 and this is also its priority date. It was published as GB2516004 A on 14th January 2015.

2 The examiner has maintained throughout the examination process that the invention is excluded from patentability under section 1(2) of the Act as a method of doing business as such. After a number of rounds of amendment the examiner remains of this opinion and also that the amended claims lack an inventive step over the prior art, contrary to section 1(1) of the Act. The applicant thus requested a hearing which took place on 22nd November 2017. It was attended via video link by Mr Paul Cole & Mr Matthew Ashdown of Lucas and Co. and by Mr Paul Sheedy, representing the applicants. Also present was Mr Philip Osman acting as my hearing assistant.

The invention

3 The application is concerned with the registration at first use of a loyalty card of the type used by large retail organisations such as supermarkets. The current claims were filed on 5th September 2017 and comprise three claims with claim 1 being the only independent one. Claim 1 reads as follows:

> *A retailer loyalty database system comprising:*
>
> *A user loyalty card of ISO/IEC 7810 format of size 85.60 x 53.98 mm (3.370 x 2.125 in) carrying an identification and a matrix barcode, wherein the matrix barcode stores the identification and a link to an online registration page of a database associated with an issuer of the card, the card further comprising a linear barcode carrying the identification and the identification being a unique serial number for the card, and the card having an RFID capability;*

A mobile device, a camera forming part of the mobile device and matrix barcode recognition software stored in the mobile device and configured on photographing the matrix barcode to recognise the identification and the link and to transmit the link to a card issuer website for initiating transmission to the mobile device of the online registration page; and

A data processor having a database linked to the card issuer website and having the online registration page which is configured for communication with the mobile device for appearance onscreen at the mobile device, for populating the registration page either manually or using pre-stored data and for returning the entered data and the identifier to the card issuer website.

4 This is said to improve data accuracy and reliability over the prior art acknowledged by the applicant of a customer filling in a card application form, sending this to a card issuer by post, and receiving a card by return. Such a prior art system requires that a customer manually enter the information on a paper form, which data is then re-keyed by an operator at the provider's (or their subcontractor's) premises, with all the scope for error that entails. The time spent waiting for the issue of the card leads to customer transaction data being lost in the interim and the wait itself can act as a disincentive to the customer in registering for a card. The immediacy and simplicity of the proposed method mitigates these issues.

5 I shall now consider whether the application complies with sections 1(1) & 1(2) of the Act, beginning with the latter section:

Excluded Matter

The law – section 1(2)

6 The relevant parts of section 1(2) of the Patents Act read as follows:

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-

…

(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.

7 In *Aerotel/Macrossan*[1], the Court of Appeal reviewed the case law on the interpretation of section 1(2) and approved the following four-step approach to help decide the issue:

> *(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.*

8 Paragraph 43 of the judgment explains that identification of the contribution is essentially a matter of determining what it is the inventor has really added to human knowledge, and involves looking at substance, not form. Paragraph 47 adds that a contribution which consists solely of excluded matter will not count as a technical contribution.

9 The case law in this area has been further elaborated in *Symbian*[2], *AT&T/CVON*[3] and *HTC v Apple*[4]. In particular, *AT&T/CVON*[3] provided five helpful signposts to apply when considering whether a computer program makes a relevant technical contribution. In *HTC v Apple*[4], Lewison LJ amended the fourth of these signposts. The signposts, as so amended 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.*

[1] Aerotel Ltd v Telco Holdings Ltd (and others) and Macrossan's Application [2006] EWCA Civ 1371
[2] Symbian Limited's Application [2008] EWCA Civ 1066
[3] AT&T Knowledge Ventures LP and CVON Innovations Limited [2009] EWHC 343
[4] HTC Europe Co Ltd v Apple Inc [2013] EWCA Civ 451

Application of the *Aerotel* test

Step 1: Properly construe the claim

10 Construing the claim appears to hold no difficulty. In my view, it can be summarised as: a system comprising a customer loyalty database, a customer loyalty card, and a mobile device (such as a smart phone), wherein the loyalty card carries identification information in three forms (bar code, 2D bar code and RFID) wherein when the mobile device scans the 2D bar code it is directed to a data entry website where the card may be registered to a user.

Step 2: Identify the actual contribution

11 Identifying the contribution made by the invention is somewhat less straightforward. At the hearing it was accepted that none of the individual elements are new in themselves. Thus any contribution must stem from the way in which they are organised or connected to each other and/or in how they interact.

12 At the hearing Mr Cole was keen to stress that the invention should be viewed in the context of the user interacting with the system. When I explored this question further, he agreed that he meant that the contribution should be seen at the level of the system as a whole, and including the human interacting with it. He argued that the system shows an improved reliability over the prior art when human factors are taken into account.

13 I note that in his opening comments at the hearing, Mr Cole observed that the claims are directed to a system made up of physical integers and questioned whether such a claim could be considered a business method at all, since by definition the claims do not define a method as such. Here, I think, the inclusion of the human user in the definition of the contribution helps to clarify things. As noted above, the definition of the contribution should identify 'what has been added to human knowledge' and, importantly, it is a question of substance not form.

14 To my mind, including all the features and steps of the system in the contribution would result in a somewhat unwieldy definition. However, Mr Cole's point that the human aspect should be considered is persuasive. I observe that, as explained by Mr Sheedy at the hearing, the invention differs from the conventional approach by virtue of issuing a card *before* a customer is registered. I will therefore take the following as my definition of the contribution:

15 A system of registering a customer/card relationship on a retailer loyalty database where a card is pre-issued and later associated with a customer account upon the customer directly inputting their data to the database, having been directed to an interface with that database by information carried on the card.

16 This, I think, is the substance of what the invention has added to human knowledge.

Step 3: Ask whether it falls solely within the excluded subject matter

17 It appears to me that the above contribution revolves around a change to the business process of registering the card. Specifically, pre-issuing a card to a customer and then facilitating the customer performing the registration step online. While technical means are employed to allow this change, the steps themselves involve technical devices doing no more or less than what was well known at the priority date. In particular, the prior art document cited by the Examiner in his later reports demonstrates that a 2D bar code on a card is known to be useable in directing a mobile device, such as a smart phone, to a website. Thus, while the claim is indeed directed to a system made up of physical integers, I view this as mere form. In my view, the underlying substance is a business method. I thus conclude that the contribution falls wholly within the exclusion of a method for doing business as such.

Step 4: Check whether the actual or alleged contribution is actually technical in nature

18 I have found that the contribution falls wholly within the business method exclusion. However, step 4 of the Aerotel[1] test requires that I consider whether the invention may nonetheless still be viewed as technical. Here, I believe that it would be useful to consider the five AT&T signposts in some detail. I do so while noting that these are aimed at considering whether a computer program, and not a business method, makes a relevant technical contribution. However, I believe that the fact that the physical integers of the invention are all related to computing systems makes the signposts useful in this case. I will, though, apply them with some caution. I will now consider each signpost in turn:

(i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer;

19 Mr Cole sought to convince me that there is an external technical effect since the user lies outside of the computer hardware. I am afraid that I do not accept this line of reasoning. While the 'human effect' is external it is not technical in nature. To my mind it is merely a better (i.e. more convenient) experience when interacting with a business process.

20 (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;

21 Again, Mr Cole sought to convince me that the effect is at the architecture level. It is certainly true that the overall organisation of the data processing components has some bearing on how the process operates. However, this organisation is driven by the steps of the business process and so does not appear to be data agnostic in the way suggested by the signpost. Also, 'at the architecture level' is generally taken to mean close to the silicon chip (micro) level, rather than the wider organisational (macro) level of the system. As all the system hardware is operating in a known

manner, I can see no evidence of a technical effect operating at the architecture level of any device.

22 *(iii) whether the claimed technical effect results in the computer being made to operate in a new way;*

23 Mr Cole acknowledged that all the individual components operate in a known way and sought to persuade me that the system as a whole operated differently. Again, I am not convinced. The fundamental difference over the prior art lies in the method being operated by the system not in how any of the components operate in, and of, themselves. Thus this signpost is also not satisfied.

24 *(iv) whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer;*

25 Clearly, this is not the case. As with signpost three, the individual data processing components are running in a conventional manner and so the data processing steps are not improved. Mr Cole described the system as 'providing a working solution' to 'user apathy'. It appears therefore that any improvement in efficiency comes not in the computer system, but in the user.

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

27 As discussed above, there are two perceived advantages to the new system: greater accuracy levels in the data and greater convenience for the user. Both these advantages stem from the system eliminating the step of third-party data entry which is error prone and time consuming. Thus, the problem is circumvented, rather than solved. Even if it were overcome, I note that the problem is a business related problem not a technical one.

28 After careful consideration I have been unable to identify any grounds upon which the contribution might be considered technical in nature. It follows that the fourth Aerotel[1] step is not satisfied and I find that the invention is excluded as a business method.

Other Arguments

29 At this point I should also address a further argument which was made by Mr Cole in closing: he suggested that the limitation in Section 1(2) that the exclusions only apply to that thing 'as such' should be interpreted as not proscribing an invention which is usable in the real world or which is useful. Unfortunately, I think this is overstating things. The exclusion defines that business methods are excluded. Clearly business methods always operate in the real world and are, by their nature, useful to businesses. To allow an invention on the basis that it is useful in the real world would be to render this exclusion (and others) meaningless. This cannot be what the legislator intended.

30 For completeness, I also confirm that I have also considered the arguments put forward in Mr Cole's earlier letters and the case-law discussed therein. For reasons of brevity, I will not go through the points made here, but note that I have born them

in mind while considering the points made above. As such, it is my opinion that they have been adequately covered and they do not alter my reasoning in any way.

31 In conclusion, for this part of my decision at least, I find that the invention is excluded from patentability under Section 1(2) as a method of doing business, as such.

Inventive Step

32 Although I have found that the application is excluded from patentability as a method for doing business, for completeness I will also consider the question of whether the claims are inventive with respect to the cited prior art:

US2012/0209688 A1 (LAMOTHE)

The law – section 1(1)

33 Section 1(1) of the Act states that:

> *A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say –*
>
> *(a) the invention is new;*
>
> *(b) it involves an inventive step;*

34 Also, Section 3 of the Act states:

> *An invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms part of the state of the art by virtue only of section 2(2) above (and disregarding section 2(3) above).*

35 In addition to statute, the courts have long used the so called *Windsurfing* test to assess issues of inventive step. This test was reformulated by the Court of Appeal in *Pozzoli*[5]. Paragraph 23 of this decision lays out the test as:

> *(1) (a) Identify the notional "person skilled in the art"*
>
> *(b) Identify the relevant common general knowledge of that person;*
>
> *(2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;*
>
> *(3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;*

[5] *Pozzoli Spa v BDMO SA & Anor [2007] EWCA Civ 588.*

(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

Application of the Windsurfing/Pozzoli test

Step 1(a): Identify the notional "person skilled in the art"

36 Mr Cole suggested that the skilled person in this case would be a team comprising a software systems design specialist working with an expert in the customer management field, who “uses this sort of stuff and is concerned with the management and practical operation of stores and other retail systems, and who is trying to make that process more efficient”. Mr Cole also suggested that the balance of this team would be more towards the latter person. This assessment seems reasonable to me and I accept it as a valid approach.

Step 1(b): Identify the relevant common general knowledge of that person;

37 I consider the first team member would be familiar with the ‘nuts and bolts’ of systems design, and so would be expected to have a thorough knowledge of database design, online data entry, the various methods of encoding data onto cards (bar code, QR code, RFID) and so forth. The second team member would be less well versed in the technical details. They would, however, be well placed to consider the system from a user-experience perspective and be able to ‘take a step back’ from the detail in order to consider what the system overall might deliver.

Step 2: Identify the inventive concept of the claim in question

38 I have already construed claim 1, above, as part of the first step of the Aerotel test. Once again, Mr Cole asserted that the inventive concept is ‘the overall system’ and this appears to sit comfortably with my previous construction of the claim. I am thus content that this earlier construction can be used as a valid expression of the inventive concept for the purposes of assessing inventive step.

Step 3: Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim

39 At the hearing, it was agreed that LAMOTHE is the closest prior art to the disclosure of the current application. I will thus use this document to define the state of the art. This document discloses the use of a card carrying a 2D bar code, which may be scanned by a user, the information held on the 2D bar code causing the user to be automatically forwarded to, in one option, a website carrying the user’s account details.

40 Mr Cole argued that the card system shown was directed to a gift card holding a pre-paid balance, and that only 'passing reference' is made to the possible use as a loyalty card. It follows, he contended, that to apply the disclosure to a loyalty card system would be an over-generalisation of the disclosure. However, far from a passing reference, I can see that there are repeated references to loyalty cards, with the explicit information that the claimed system can be used in a loyalty card system. Any lack of detail in this assertion is arguably driven by an assumption that the detail is not needed – i.e. that the skilled reader would see naturally what modifications would be required to apply the invention here.

Step 4: Do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

41 What LAMOTHE does not disclose is the step of registering the card to a user account. It seems to me, however, that this step would naturally fall out of a simple 'Failure Modes Analysis' at the design stage. When considering how a user would interact with the system, a management expert (i.e. the second team member above) would be expected to ask, 'what happens if the user scans the 2D bar code before they have a registered account?' Once asked, this question would inevitably lead the software designer to suggest a simple re-direct to a registration page.

42 LAMOTHE also lacks, as Mr Cole pointed out, a conventional 1-dimensional bar code on the card shown in the embodiment, although a passing reference is made to these early on in the description. Mr Cole helpfully explained that conventional loyalty cards seek to use a bar code for all encoding purposes, since this allows a single reader to be used by the retailer. It seems to me that in developing a loyalty card based on the disclosure of LAMOTHE, the same logic would apply: The introduction of a 2D barcode for registration purposes would not supersede the requirement to use conventional scanning equipment at the till. It follows, therefore, that for a loyalty card it would be obvious to retain the single dimensional bar code.

43 In addition, LAMOTHE lacks any reference to RFID. Here, I feel that the first member of the skilled team would find the inclusion of such a feature an obvious option. In considering a loyalty card which has data encoded thereon, it would be natural to consider any and all known ways of encoding such data.

44 Additionally, the presence of the RFID on the card does not appear to have any functional impact on the claims. The card registration process explicitly employs a camera scanning the 2D (matrix) barcode with the RFID simply being present. As such, this feature in the claims has no synergy with the other features and its inclusion appears to be a matter of collocation.

45 I thus decide that claim1 lacks the required inventive step. Furthermore, I do not regard the features added by claims 2 or 3 as adding an inventive step.

Decision

46 I have found that the invention defined in the claims falls solely within matter excluded under section 1(2) as a method for doing business as such. I have also found that the claims lack the required inventive step contrary to section 1(1)(b). Having reviewed the application, I do not consider that any saving amendment is possible. I therefore refuse this application under section 18(3).

Appeal

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

Stephen Brown

Deputy Director, acting for the Comptroller