



## PATENTS ACT 1977

APPLICANT	Gelliner Limited
ISSUE	Whether patent application GB1815310.6 complies with section 1(2)(c)
HEARING OFFICER	Ben Buchanan

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## DECISION

### Introduction

- 1 This decision considers the issue of whether the invention claimed in patent application GB1815310.6 satisfies the requirement for patentability as defined by section 1(2) of The Patents Act 1977 ("The Act").
- 2 Patent application GB1414511.4 entitled "Bill Payment System and Method" was filed at the IPO on 15<sup>th</sup> August 2014 in the name of Gelliner Limited. The application was published on 16<sup>th</sup> March 2016 as GB2530015A. Patent application GB1815310.6 also entitled "Bill Payment System and Method" was filed at the IPO on 20<sup>th</sup> September 2018 also in the name of Gelliner Limited along with a request that it be given divisional status derived from GB1414511.4, thereby being treated as having been filed on 15<sup>th</sup> August 2014 (the filing date of GB1414511.4). The compliance period has been extended as of right and expires on 15<sup>th</sup> April 2019.
- 3 Processing as a Combined Search and Examination was requested and a search and examination report dated 5 November 2018 were consequently issued, which included a notification of allowance of the divisional date. The Examiner raised in that examination report an objection that the claimed invention was excluded from patentability under section 1(2)(c) of the Patents Act 1977, as a method of doing business and a program for a computer, along with an invitation for the Applicant to request a hearing. On 21<sup>st</sup> of December 2018, the Applicant requested a hearing, and on 28<sup>th</sup> December 2018 that the matter be decided on the basis of the papers on file. A pre-hearing report letter was issued by the Examiner on 30<sup>th</sup> January 2019. The Applicant has not provided any arguments or observations in response to the examination report or the pre-hearing report.
- 4 The Examiner's pre-hearing report sets out the matters at issue. He reasons that the claimed invention is not patentable because it is a program for a computer and a method for doing business as such.

- 5 As mentioned in the Examiner's letter dated 30<sup>th</sup> January 2019, consideration of whether the (original and only) claims filed on 20<sup>th</sup> September 2018 are novel and inventive has been deferred, and the search remains incomplete. The novelty and inventiveness of these claims is not the subject of this decision.
- 6 I confirm that I have considered all of the correspondence on file including the objections set out in the pre-hearing report dated 30<sup>th</sup> January 2019.

### **Related Applications**

- 7 A request for a hearing on the parent to this application, GB1414511.4 (hereinafter '511.4'), has also been requested and it raises similar considerations. It has been the subject of a separate decision on the papers.

### **The Invention**

- 8 The invention relates to simplifying bill payment, particularly when splitting the bill, by making a bill computer-readable and facilitating payment of portions of the bill separately. The central concept involves a data analyser receiving a file including data representing a textual representation of a bill from a Point of Sale (POS) device and augmenting the file to include data representing a non-textual representation (e.g. a 2D matrix barcode or QR code) of bill and merchant data to produce an augmented file which is then sent to an output device. A computing device, which may be a mobile phone with a scanner (e.g. a camera), detects the non-textual representation including itemised bill data, decodes it and displays the data on a user-interface. The user-interface receives an input command to initiate payment of at least a portion of the bill via a server. A user can thereby elect to pay only a portion of the bill, facilitating splitting the bill between a number of customers.

### **The Claims**

- 9 The claims filed on 20<sup>th</sup> September 2018 include three independent claims, numbers 1, 16 and 32, directed to a method, a computer-readable medium storing instructions, and a computing device. Whilst the form of the claims differ, their substance is the same, and is outlined below in the method form of claim 1:

*1. Detecting, by a computing device, a non-textual representation of (i) a bill identifier on a bill from a merchant, (ii) an amount due corresponding to the bill, (iii) a merchant identifier corresponding to the merchant, and (iv) an itemization of the bill, wherein the non-textual representation is generated by a data analyser device that (a) parses a file received from a point-of-sale device to recover data representing the bill corresponding to various data fields of the file, the file including data representing a textual representation of the bill, (b) augments at least a portion of the file to include data representing the non-textual representation, thereby generating an augmented file, and (c) sends the augmented file to an output device that provides at least the non-textual representation;*

*decoding, by the computing device, the non-textual representation provided by the output device to recover data represented by the non-textual representation;*

*displaying, on a display of a user-interface of the computing device, the data represented by the non-textual representation;*

*receiving, by the user-interface, input representing a command to initiate a payment of at least a portion of the amount due corresponding to the bill; and*

*based on receiving the input, sending, to a server, a request to initiate the payment of at least the portion of the amount due.*

## **The Law**

- 10 The Examiner has raised objections under section 1(2) of the Act, stating that the invention is not patentable because it relates to categories of excluded matter. The most relevant provisions of this section of the Act are shown in bold below:

*1(2) It is hereby declared that the following (amongst other things) are not inventions for the purpose of the Act, that is to say, anything which consists of*

*—*

*(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 provisions shall prevent anything from being treated as an invention for the purposes of the Act only to the extent that a patent or application for a patent relates to that thing as such.*

- 11 These provisions are designated in section 130(7) as being so framed as to have, as nearly as practicable, the same effect as Article 52 of the European Patent Convention, to which they correspond. I must therefore also have regard to the decisions of the European Patent Office Boards of Appeal that have been issued under this Article in deciding whether the present invention is patentable although I am not bound to follow them. I am bound to follow the decisions of the UK Courts however.

- 12 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 provides a technical contribution to the state of the art. The Court of Appeal in *Aerotel/Macrossan*<sup>1</sup> set out the following four-step approach to help decide the issue:

*(1) Properly construe the claim;*

*(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*

- 13 The operation of the approach is explained at paragraphs 40-48 of the judgment. Paragraph 43 confirms 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.

- 14 The case law on computer implemented inventions has been further elaborated in *AT&T/CVON*<sup>2</sup> which provided five helpful signposts to apply when considering whether a computer program makes a relevant technical contribution. In *HTC v Apple*<sup>3</sup>, Lewison LJ reconsidered the fourth of these signposts and felt that it had been expressed too restrictively. The reformulated 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; and*

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

### **Argument and Analysis**

- 15 I am bound to follow the Court's approach in *Aerotel*<sup>1</sup>, as the Examiner has done. Although the Examiner has cited the *AT&T*<sup>2</sup> signposts (as reformulated in *HTC*<sup>3</sup>) in his pre-hearing report, he elected not to apply them all to the contribution he identified. It is quite clear to me, however, not least from the form of the claims, that the invention is implemented by means of a computer program. The claims of this invention emphasise the *parsing, augmenting, detecting* and *decoding* steps being carried out – all steps which are implemented by programmed hardware. Furthermore, the invention is distinguished over '511.4 by specifying that payment of a "*at least a portion*" of an itemised bill is initiated via a server. It seems very likely to me that the signposts may provide helpful guidance in determining the nature of the contribution and so I shall apply the test set out in *Aerotel* and then use the signposts to guide my assessment of whether the contribution is technical.

#### **(1) Properly construe the claims**

- 16 The first step is to construe the claims.
- 17 The only point to clarify in the independent claims is that the final feature of each does not specify that the *computing device* sends a request to a server to initiate the

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

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

<sup>3</sup> *HTC v Apple* [2013] EWCA Civ 451

payment. However, this seems to me to be the clear purpose, and each of the independent claims is construed as such.

- 18 Beyond the issue identified above, construing the claims presents no further difficulty as the identification and interrelationship of their integers is clear.

**(2) Identify the actual contribution**

- 19 From the documents on file, the Attorney and the Examiner have not agreed as to the identified contribution. Indeed, the Attorney has not attempted to identify the contribution at all.

- 20 The examiner's interpretation of the contribution, set out in his letter dated 30<sup>th</sup> January 2019 is:

*A computer implemented method of providing an efficient billing process wherein a POS sends a bill to a data analyser which parses the file, sends data to a server, and generates an augmented file including a non-textual representation of billing information to send to an output device. The customer subsequently decodes the non-textual representation to initiate a payment of at least a portion of the bill with the server. This provides the advantage of freeing up the time of the POS user and allows a bill to be efficiently split between multiple customers.*

- 21 This interpretation of the alleged contribution seems to draw upon features included in an embodiment of the invention as described in the description, but which are not essentially present in any of the independent claims. None of independent claims 1, 16 or 32 involve "sending data to a server" (other than a subsequent request to initiate payment), and the decoding is performed by a "computing device" in the claims rather than "The customer". Additionally, the decoding isn't done to directly initiate a payment. While the contribution need not necessarily align perfectly with the scope of the independent claims I cannot readily reconcile the Examiner's formulation with the claimed inventive concept.

- 22 Jacob LJ outlined the considerations to be applied when identifying the contribution made by the claims 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 formulation involves looking at substance not form – which is surely what the legislator intended."*

- 23 In my decision on '511.4 I considered the whole of the specification when identifying the contribution, including considering the problem said to be solved and what the advantages are. For example, I considered incidental features such as obviating the need to print a receipt and circumventing the need for direct communication with a POS device when making payment. For the avoidance of doubt, I have considered those features here too, but as with '511.4 they are not reflected in the independent claims and they do not add to the stock of human knowledge. In contrast to '511.4 the current claims do define the step of sending a request to a server to initiate

payment. Of course if initiating payment is followed by payment itself being processed by the server and not the POS it amounts to circumventing the POS, but they are not necessarily the same thing. Avoiding printing receipts and not communicating directly with the POS are not therefore necessarily elements of the alleged contribution but even if they were they would not change my assessment for the reasons outlined in my decision on '511.4. Subject to that qualification I shall follow the approach to identifying the contribution for myself as outlined in *Aerotel*. However, I shall confine myself to the features of the claims as I have construed them and I will not duplicate consideration of the wider features already considered in my decision on '511.4.

- 24 The problem addressed by the invention is neatly summarised in the opening paragraph of the description, namely how to simplify paying bills at establishments such as restaurants, refuelling stations and retailers including splitting the bill and adding a tip. Lines 3-12 of page 20 further explain that non-textual representations of bill data can increase the efficiency of bill payments, and the user is spared the "tedium" of bill payment.
- 25 As such, the problem addressed by the invention according to the description is simplifying paying bills to a merchant and facilitating splitting the bill. Although the invention is implemented by a specific arrangement of programmed hardware, there is no suggestion that the problem is related to hardware or its general operation. Rather, the problem extends to how to program software applications to control the hardware. The data analyser and the computer-readable medium associated with it are allegedly new because they are programmed to operate in an allegedly new way.
- 26 The invention of independent claims 1, 16 and 32 works by processing a file from a POS device that includes data representing a textual representation of a bill to recover data, augmenting it with data representing a non-textual representation of bill and merchant data, and providing the augmented file as an output. The non-textual representation output is detected and decoded by a computing device before being displayed on a user-interface to enable a user to initiate payment of at least a portion of the bill.
- 27 The main advantages provided by the invention are set out in lines 3-17 of page 20. This passage indicates that the advantages revolve around increasing the efficiency of paying bills through the use of non-textual representations – the user's device need merely detect a non-textual representation to enable bill payment – and avoiding the need to tender cash or card for payment. By providing a non-textual representation of an itemised bill and enabling payment of a portion of the bill, splitting the bill between more than one customer is facilitated. As described on pages 16-19, the server to which the request to initiate payment is sent may process payments and provide further functions such as indicating whether or not they are successful.
- 28 In light of the assessment above of the problem to be solved, how the invention works and the advantages provided, I consider the contribution of all three independent claims to be:

*Processing a file from a Point of Sale (POS) device that includes textual representation of a bill from a merchant (e.g. for the cost of a meal) to recover data,*

*augmenting the file to include a non-textual representation (e.g. a QR code) of a bill identifier, an amount, a merchant identifier and an itemisation and providing the file as an output to a computing device (e.g. a smart phone) where the non-textual representation is decoded and displayed in order that a user can select to pay at least a portion of the bill and optionally split it with other customers or add a tip by transacting with a server.*

**(3) Does the contribution fall solely within the excluded matter?**

- 29 The Applicant has provided no argument to explain why they believe the invention is one which is patentable under section 1(2), nor any response to the examination or pre-hearing reports. Consequently, I shall first consider whether the contribution I have identified resides solely in a program for a computer. I will then consider whether the contribution resides solely in a method for doing business. As the contribution reflects, I consider the contribution of this invention, as distinct from that of '511.4, to be particularly relevant to splitting a bill and transacting with a server.

*Program for a computer*

- 30 It is clear that the contribution is implemented using a computer program. In using the guidance from the *AT&T* signposts for assistance, the question to be resolved is whether the contribution resides solely in a computer program or whether it has a technical effect which takes it outside of that exclusion of Section 1(2)(c) of the Act.
- 31 Signpost i) asks "*whether the claimed technical effect has a technical effect on a process which is carried on outside the computer*". It is important to define "the computer". It is well established that "the computer" can include systems operating as a network for the purposes of this signpost, as emphasised by Birss J in paragraph 30 of *Lantana*<sup>4</sup>. "The computer", then is not just the *computing device* of the claims but refers to the system of components comprising the data analyser, the POS device, the computing device, the server and any further computing devices.
- 32 The steps of intercepting (in effect the receipt of the file by the data analyser), parsing, augmenting, detecting and decoding are all carried on inside the computer. The only process which is carried on outside "the computer" is the output of the non-textual representation, its scanning by the computing device (to enable detection), the display of the data represented, the input by a user of a command to initiate a payment and the transaction between the user and the merchant. The output, scanning, display and input steps are conventional and are not affected by the contribution or by the nature of the data in question. The transaction is within the field of business. The specification explains that a wider range of payment options may be realised more efficiently. I do not consider these effects outside the computer to be technical. Transacting via the server enables the server to process payments and provide functions such as confirming that a payment was or was not successful. In so far as the process outside the computer is affected by the customer transacting with the server as opposed to directly with the POS device, any advantages would again appear to be conventional and to lie in the field of business. They do not comprise a technical effect.

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<sup>4</sup> *Lantana v Comptroller-General of Patents* [2013] EWHC 2673 (Pat)

- 33 Finally, the Examiner has argued that the use of a barcode (and by extension a 2D barcode or QR code) for communicating between computing devices is not in itself technical, citing *BL O/353/16 (Lionel Wolovitz)*. I would add that the non-textual representation referred to in the present application can conform to an ISO standard, as acknowledged for example on page 6 lines 1-8, and nowhere is there a suggestion that the format of the non-textual representation is itself new or inherently technical. I cannot therefore see that the provision of the non-technical representation, its detection or decoding gives rise to a technical effect.
- 34 Signpost ii) asks “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”. The steps of intercepting, parsing, augmenting, detecting and decoding are clearly carried out upon textual and/or non-textual bill data. There is no suggestion of any part of the contribution which operates at the architectural level of the computer; e.g. its construction and use of resources, for example defined within the operating system or communication protocol. In contrast, “the computer” is running conventionally under the control of the application software which implements the invention on appropriate hardware. In other words, as per the second part of the signpost, the effect is not generally applicable regardless of the applications run or data processed, but rather is specific to the payment of a bill and the associated bill data.
- 35 I agree with the Examiner’s view that following *Aerotel v Wavecrest*<sup>5</sup> especially paragraph 227, for the contribution to reside in hardware, the arrangement of hardware must be new in itself and not new due to the programmed method operating on the hardware. The proposed invention defined in independent claims 1, 16 & 32 may potentially operate differently to the cited prior art, but this is due to the particular program being run, not the arrangement of hardware. The effect produced is entirely dependent upon the application being run. As such, the second signpost does not assist in identifying a technical contribution.
- 36 Signpost iii) asks “*whether the claimed technical effect results in the computer being made to operate in a new way*”. As with signpost ii) above, the contribution identifies nothing which can be equated to a “computer” being operated in a new way. The hardware, including the server, runs the application program in a standard manner.
- 37 Signpost iv) asks “*whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer*”. “As a computer” confers a similar requirement as in signposts (ii) & (iii) that the computer itself should operate differently and not just under the control of application level software. In other words merely providing a program to make more efficient use of the hardware does not meet the signpost. The computer as a whole must operate in an improved way. There is no assertion in the specification which suggests an alleged contribution to efficiency or effectiveness as a computer. In my opinion, the components of the invention are not operating more efficiently or effectively as “a computer” when running the program embodying the contribution. The gain in efficiency and effectiveness instead resides in the bill payment transaction.

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<sup>5</sup> *Aerotel Ltd v Wavecrest Group Enterprises & Others* [2008] EWHC 1180 (Patents)

- 38 Signpost (v) checks “*whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented*”. Again, I agree with the Examiner’s view that the problem to be overcome, as stated on page 1, is not a technical one. It is instead overcoming the tediousness of bill payment, which is achieved by providing an improved method of bill payment, this lying squarely in the field of business. No technical problem is being addressed by the claimed invention. In so far as transacting via the server may enable confirmation of the success (or otherwise) of bill portion payment, the problem to be solved would again seem to be a business problem, solved using conventional means. As such, the fifth signpost does not assist in identifying a technical contribution.
- 39 Having considered the alleged contribution in light of the *AT&T* signposts, I am of the opinion that it falls solely within the excluded subject matter of a program for a computer. None of the signposts suggest that the contribution is more than a program for a computer as such. The contribution resides solely in a program for a computer and it does not have a technical nature which takes it outside of the exclusion of Section 1(2)(c) of the Act.

*A scheme, rule or method for doing business*

- 40 I have found above that the only process carried on outside the computer is in the field of business. The question here is whether it relates solely to a method for doing business *as such*.
- 41 In the pre-hearing report dated 30 January 2019, the Examiner asserts that *Merrill Lynch*<sup>6</sup> that the business method exclusion is generic, and that the fact that an application provides a new or better way of conducting business is not relevant as it remains no more than a method of doing business *as such*. I must therefore assess the contribution to the field of business and determine not whether it is a better method per se, but whether there is any technical effect within the field.
- 42 In *BL O/112/18 (Landmark Graphics Corporation)*, at paragraph 27, the Hearing Officer concluded that one can step back from the actual advance over the state of the art and identify the field of endeavour when considering what the inventor has added to the stock of human knowledge, i.e. the contribution. If that field of endeavour is a technical one, as in *Halliburton*<sup>7</sup> then the invention may be a patentable one under Section 1(2).
- 43 As presented on page 1 of the description, the inventor has appreciated that paying bills is tedious. His aim is to avoid this by undertaking to provide an improved bill paying experience and make it easier to split the bill. He is endeavouring to facilitate improved customer transactions. His field of endeavour can therefore be considered to be: *facilitating at least a portion of a bill payment by a device remotely from the POS*. This leads me to believe that the field of endeavour is indeed “business”, and I believe therefore the invention does fall solely within the excluded field of a method for doing business as such.

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<sup>6</sup> Merrill Lynch’s Application [1989] RPC 561

<sup>7</sup> *Halliburton Energy Services, Inc. v Smith International (North Sea) & Ors* [2005] EWHC 1623 (Pat) (21 July 2005)

***(4) Check if the contribution is actually technical***

- 44 The third and fourth steps of the *Aerotel* test involve asking whether the identified contribution falls solely within the excluded categories, and then checking whether it is technical in nature. Given that the consideration as to whether the contribution is technical in nature has a direct bearing on whether it falls solely within excluded subject matter, these two steps have been considered together above. However, for the avoidance of doubt, I am content that there is no relevant technical contribution in the invention of GB1815310.6.

**Conclusion**

- 45 I find that the claimed invention is excluded under Section 1(2)(c) because it relates to a program for a computer and a method for doing business as such. Having considered the specification as a whole I do not think that any saving amendment is possible. I therefore refuse this application under Section 18(3).

**Appeal**

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

**BEN BUCHANAN**

Deputy Director, acting for the Comptroller