



**PATENTS ACT 1977**

APPLICANT	Intuit Inc
ISSUE	Whether Patent application GB1416583.1 complies with Section 1(2)
HEARING OFFICER	Mrs S E Chalmers

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**DECISION**

- 1 Patent application number GB 1416583.1 is derived from an international application filed on 19 March 2013 claiming a priority date of 19 March 2012 from an earlier application. It was published as WO 2013/138851 on 26 September 2013 and subsequently republished as GB 2514963 on 10 December 2014 after entry into the GB national phase.
- 2 The examination report, dated 31 October 2018, reported that the claimed invention was excluded from patentability as a business method and computer program as such with several other objections. Several rounds of amendment and re-examination followed which overcame the other objections, but the examiner maintained that the invention was excluded throughout. A hearing was offered in the letter accompanying the examination report of 26 July 2019 highlighting that if the agent responded but did not request a hearing then the application may, nonetheless, be passed for a decision on the papers on file. The agent responded on 11 September 2019 with further amendments and arguments, but these didn't convince the examiner and the case was passed to me for a hearing on the papers. A letter, setting out the issue upon which the hearing was to be held, was sent further on 19 September 2019.
- 3 I confirm that in reaching my decision I have considered all the correspondence on file.

**The Invention**

- 4 The application is entitled "Document Processing" and is said to concern computing systems for processing documents by extracting data from documents. Problems are identified with the computerisation of business processes whereby documents, such as invoices from suppliers, are handled in electronic form but the different formats used by different suppliers make it difficult to extract the required data from the file.

Invoices may be received in pdf format attached to the email, as a structured text file or a graphic, such as the image of the invoice.

- 5 The application provides a system for extracting data from a document received with a message from an electronic address of a sender by selecting a subset of maps from a plurality of maps based on the address of the sender. Each map is a set of definitions of data fields, which may be expressed using XML, including location data, such as coordinates, for each data field and a value field. The methodology iteratively selects a map from the subset of maps and determines whether the location data of document elements and the location of data fields of the selected map identify the same location. If the location data identify the same location, the value of the data field of the selected map is determined by extracting document data from the document element. If the location data does not identify the same location, a mapping error is returned, and a new map selected from the subset of maps. Calculations are then performed on the extracted values and an XML file comprising the result of the calculations is stored to a data store.

## **The claims**

- 6 The current claim set includes three independent claims numbered 1, 12 and 23 relating to a computer implemented method and equivalent computer system and computer software respectively. Claims 1 and 23 read:

*1. A computer implemented method for extracting data from an electronic document having document data, the method comprising:*

*receiving a message from a sender, the message having the electronic document, wherein the electronic document comprises location data of document elements, and an electronic address of the sender of the message;*

*selecting a subset of maps from a plurality of maps based on a stored association between the electronic address of the sender and each map of the subset of maps and without relying on content from the electronic document, wherein each map of the plurality of maps includes one or more data field definitions, and wherein each data field definition comprises at least a value field and a location;*

*iteratively selecting a map from the subset of maps associated with the electronic address of the sender and determining whether the location data of at least one document element and the location of at least one data field of the selected map identify the same location, wherein:*

*if the location data of at least one document element and the location of at least one data field of the selected map identify the same location, determining the value of the at least one data field of the selected map by extracting document data from the at least one document element, and*

*if the location data of the at least one document element and the location of the at least one data field of the selected map do not identify the same location, returning a mapping error and selecting a new map from the subset of maps associated with the electronic address of the sender;*

*performing one or more calculations based on the values of the at least one data field; and*

*storing an XML file comprising at least the result of the one or more calculations on a data store.*

23. *Computer software arranged to cause a computing device to operate in accordance with the method of any one of claims 1 to 11.*

## The law

- 7 The section of the Act concerning inventions excluded from patentability is Section 1(2), which reads:

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

*–*

*(a)...*

*(b)...*

*(c) a scheme, rule or method for ... doing business or a program for a computer;*

*(d)...*

*but the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to that thing as such.”*

- 8 The Court of Appeal has said that the issue of whether an invention relates to subject matter excluded by Section 1(2) 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*<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.*

- 9 The operation of the approach is explained at paragraphs 40-48 of the judgment. Paragraph 43 confirms that identification of the contribution is an exercise in judgment involving the problem said to be solved, how the invention works and what its advantages are; essentially, what it is the inventor has really added to human knowledge, looking at substance, not form. Paragraph 47 adds that a contribution which consists solely of excluded matter will not count as a technical contribution.
- 10 In *Symbian*<sup>2</sup> the Court of Appeal reaffirmed the *Aerotel* approach while considering a question of “technical contribution” as it related to computer programs emphasising the need to look at the practical reality of what the program achieved, and to ask whether there was something more than just a “better program”.
- 11 The case law on computer implemented inventions was further elaborated in *AT&T/CVON*<sup>3</sup> which provided five helpful signposts to apply when considering whether a computer program makes a relevant technical contribution. In *HTC v*

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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> *Symbian Ltd’s Application* [2009] RPC 1

<sup>3</sup> *AT&T Knowledge Ventures LP and CVON Innovations Limited v Comptroller General of Patents* [2009] EWHC 343

*Apple*<sup>4</sup>, Lewison LJ reconsidered the fourth of these signposts and felt that it had been expressed too restrictively. The signposts are:

- i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer;*
- ii) whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run;*
- iii) whether the claimed technical effect results in the computer being made to operate in a new way;*
- iv) whether the program 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.*

- 12 The reports on file also refer to *Genentech Inc's Patent*<sup>5</sup>, *Vicom*<sup>6</sup>, *PKTWO*<sup>7</sup>, *Gemstar*<sup>8</sup>, *Lantana*<sup>9</sup>, *Halliburton*<sup>10</sup>, *Kapur*<sup>11</sup>, *Fujitsu*<sup>12</sup> and the hearing officers' decisions in *Landmark Graphics Corporation*<sup>13</sup>, *Adobe Systems Incorporated*<sup>14</sup>, *Encompass Corporation Pty Ltd*<sup>15</sup>, *Q Software Global*<sup>16</sup> and *JDA Software Group*<sup>17</sup>.

### **Application of the Aerotel approach**

#### Step 1: Properly construe the claim

- 13 The agent and examiner agree that the independent claims are substantially clear in scope. Claim 1 relates to:

*A method for extracting data from an electronic document, including location data of document elements, received with a message from an electronic address of the sender; selecting a subset of maps, each of which includes one or more data field definitions comprising at least a value field and a location, based on an association between the electronic address of the sender and each map of the subset; iteratively selecting a map from the subset and determining whether the location data of at least one document element and the location of at least one data field of the selected map identify the same location; if the locations are the same, determining the value of the at least one data field of the selected map by extracting data from the at least one document element, and if the locations are not the same location, returning a*

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<sup>4</sup> *HTC v Apple* [2013] EWCA Civ 451

<sup>5</sup> *Genentech Inc's Patent* [1989] RPC 203 at paragraph 12.05

<sup>6</sup> *Vicom Systems Inc T 0208/84*

<sup>7</sup> *Protecting Kids the World Over (PKTWO) Ltd's Patent Application* [2012] RPC 13

<sup>8</sup> *Gemstar-TV Guide International Inc & Ors v Virgin Media Ltd & Anor* [2009] EWHC 3068 (Ch)

<sup>9</sup> *Lantana Ltd v The Comptroller* [2014] EWCA Civ 1463

<sup>10</sup> *Halliburton Energy Services Inc's Applications* [2011] EWHC 2508 (Pat), [2012] RPC 12

<sup>11</sup> *Kapur v Comptroller General of Patents, Designs & Trade Marks* [2008] EWHC 649 (Pat)

<sup>12</sup> *Fujitsu Ltd's Application* [2006] EWHC 3186 (Pat)

<sup>13</sup> *Landmark Graphics Corporation* BL O/112/18

<sup>14</sup> *Adobe Systems Incorporated* BL O/199/18 at paragraphs 37-38

<sup>15</sup> *Encompass Corporation Pty Ltd* BL O/094/19

<sup>16</sup> *Q Software Global Ltd's Application* BL O/120/11

<sup>17</sup> *JDA Software Group Inc's Application* BL O/386/12

*mapping error and selecting a new map from the subset; performing calculations based on the values of data fields; and storing an XML file comprising the result of the calculations on a data store.*

Step 2: Identify the actual (or alleged) contribution

- 14 The agent's letter of 11 September 2019 identifies the contribution as being:

*Providing an implementation whereby data field values are extracted from an electronic document to an easily manipulatable format (an XML file) using a map to facilitate performance of calculations based on the extracted data values, the map being selected based on the identity of the sender of the electronic document, whereby multiple maps are associated with a particular sender, and wherein usage of the correct map is determined through an iterative selection method which is robust to mapping errors, thereby avoiding the storing of incorrect or incomplete data field values, thereby avoiding errors in the aforementioned calculation.*

- 15 The examiner accepts this identification of the contribution with some clarifying comments referring to prior art (WO 2012/028978 A1) that the contribution does not relate to an improvement in the map itself or the data extraction process per se. Rather it is an improvement to the method of selecting one of those conventional maps by iterating through available maps until a working one is found. They say it is this iterative selection process which makes the process as a whole "robust to mapping errors" by working through every map associated with the document's sender, which in turn reduces the likelihood of incorrect data being stored and thus erroneous calculations being performed and that neither the maps nor the data extraction methods used by those maps have changed.

Steps 3 and 4: Ask whether it the contribution falls solely within the excluded subject matter and whether it is technical

- 16 The examiner argues that the alleged contribution is no more than business method and computer program as such.

*Method for doing business*

- 17 In relation to the business method exclusion the agent submits, in their letter dated 28 February 2019, that the contribution "*provides an improved method for accurately and efficiently receiving data by a computer*" and "*this is instantly seen to be far more than an improvement upon a previous method of doing business*". The examiner refutes this highlighting that neither the claims nor description discuss an improvement regarding how data reaches the computer and that entirely routine methods such as email and fax are used. The examiner goes on to say that the contribution does not concern a more accurate or efficient technical method of extracting data from a document but iteratively works through a list of conventional maps associated with a document sender's identity until a working map is found, and then processes the document using that map in the manner which is already known.
- 18 Also, in the letter of 28 February 2019 the agent suggests the contribution concerns "*how to actually perform matching of received data to data maps*" and that "*the mere*

*aim of matching data to data maps is not what is claimed*". The examiner disagrees concluding that the contribution is about administrative data processing and the automation of a business process using conventional computing techniques which they say is consistent with the judgements in *Lantana* and *Halliburton*.

- 19 The agent proposes in their letter of the 11 September 2019, that the contribution overcomes a technical problem of how to provide an implementation which allows accurate calculations to be performed automatically based on data which is extracted and processed from received documents in an efficient and adaptable manner. They go on to say that even if the invention could be considered to have business aims (which is not admitted), the claimed invention is not solely a business method. And that while the description includes examples directed to data extraction and processing specifically from invoices, the contribution is not limited to this specific example but rather encompasses various other possible uses and could be applied, without modification, to a plethora of other uses. Lastly, they assert that the contribution has application in various "*unambiguously technical*" fields.
- 20 The examiner acknowledges that the claims are broader than the specific invoice processing embodiment of the description but disagrees with the conclusion that it isn't a business method. They assert that the specific document being processed is immaterial in view of the contribution over the prior art and that accurate processing of text data within a document is not a technical problem or aim. They also highlight the comments of Floyd J in paragraph 23 of *Kapur* that the exclusion "will still bite to the extent that excluded subject matter is claimed" and even if the claims encompass methods outside the scope of excluded subject matter, this is not enough to avoid the exclusion.
- 21 No other uses are given in the agent's letter and the only other uses envisaged in the application are credit notes, financial statements, purchase orders, delivery dockets, filled in forms and packing slips. No "unambiguously technical" fields are provided either in the agent's letter or application. Although framed broadly the contribution is for use with invoices, credit notes, financial statements, purchase orders, delivery dockets, filled in forms and packing slips. I agree with the examiner that the contribution is a business method as such.

#### *Computer program*

- 22 Turning to the computer program exclusion the examiner says that the contribution is clearly intended to be embodied as computer software referring to claim 23. The examiner structures their analysis of whether a computer program makes a relevant technical contribution around the five signposts from AT&T and I will do the same.

#### *Signpost (i)*

- 23 The agent's arguments on signpost (i) begin in their letter of 21 May 2019 where they propose that a technical effect outside the computer exists "*in that the contribution allows information to be extracted from a document for subsequent further use in a manner which ensures the data that is extracted is as accurate as possible*" which means "*future processes carried out based on the extracted data will be performed accurately*". However, the examiner disagrees saying that the contribution does not extend to the conventional maps and data extraction processes

used by those maps. The examiner also proposes that processing of electronic documents received from a sender is a process which exists entirely within the computer and greater data accuracy is not a technical effect.

- 24 Most recently, in their letter dated 11 September 2019, the agent argues that “*calculations are performed based on the extracted data and stored in an easily manipulatable format*” and thus “*an entirely autonomous system, for performing calculations based on extracted data, can be provided which is adaptable to different senders of documents, as well as different document layouts, and which is robust to inaccurate mappings*”. The examiner doesn’t accept that simply performing any generic calculation and saving the result in a common XML file represents a further contribution to human knowledge, nor do these steps produce an effect which is technical or external to the computer.
- 25 The agent also draws upon the interpretation of *Vicom* in *Gemstar* to propose that producing something “*manipulatable*” meets signpost (i). The examiner disagrees noting that the invention in *Vicom* was considered to relate to more than a mathematical method because “*an image stored as an electric signal*” was considered to be a “*physical entity*” and thus the invention in *Vicom* carried out a process on a physical entity by some technical means and provided as its result a change in that physical entity. The examiner contrasts this with the present application saying that it does not relate to image processing or any other “*physical entity*”, but rather to processing a generic “*electronic document*” where that document may be “*a plain text message in the body of [an] email*”. They go on to say that even if a plain text message in the body of an email was to be considered a “*physical entity*” in the sense of *Vicom*, that this document is not changed.
- 26 The examiner also considered this signpost from the opposite direction, as suggested by the following quote from Lewison J in *AT&T* when reviewing *Vicom*:

*If, ignoring the computer program, [the invention] would be patentable, then the fact that a computer drives the invention does not deprive it of patentability.*

- 27 Following that direction, they conclude that selecting the most appropriate map or template to interpret a document to accurately extract data therefrom is an administrative task rather than a technical one that would not be inherently patentable if performed other than by a computer program. The agent, in their letter dated 11 September 2019, objects to this interpretation of signpost (i) as requiring the contribution to operate on something external to the computer system. The examiner does not disagree with this drawing upon the language used by the Technical Board of Appeal in *Vicom* (emphasis added):

*... if a mathematical method is used in a technical process, that process is carried out on a physical entity (which may be a material object but equally an image stored as an electric signal) by some technical means implementing the method and provides as its result a certain change in that entity. The technical means might include a computer comprising suitable hardware or an appropriately programmed general purpose computer.*

- 28 The agent refers to the judgements in *HTC* and *PKTWO* as supporting their position. The examiner disagrees highlighting that in *HTC* the contribution related to an

improvement in how low-level hardware events were handled which facilitated a new way of the user interacting with a touchscreen, and thus the presence of an external technical effect. Similarly, they say that in PKTWO the invention provided an alarm alerting the user, at a remote terminal, to the fact that inappropriate content is being processed within the computer. From these they conclude that the contribution of this application has no such technical effect on an external process.

29 In their letter dated 11 September 2019 the agent argues that “*there is a distinction to be made between the aim and implementation of a claimed invention*” and that while the application includes “*examples directed to data extraction and processing specifically from invoices*” the claims “*are not limited to this specific example*”. The examiner dismisses this argument to signpost (i). I have already considered this argument in relation to business methods and it does not assist the applicant here.

30 I agree with the examiner; signpost (i) requires the contribution to produce a technical effect on something outside the computer and this is not present so the signpost is not met.

*Signpost (ii)*

31 On signpost (ii), the agent proposes in their letter of 28 February 2019 that “*the approach is not dependent upon the data received, as the whole point is to not look at the received data but instead to look at the data sender*”. The examiner disagrees saying that this argument serves only to reinforce that the contribution relates to a specific type of data (namely messages comprising both an electronic document and a sender’s address) rather than relating to all data being processed by the computer. They state that contribution also does not act at the architectural level of the computer, nor has any such contribution been alleged. I agree, the contribution does not operate at the level of architecture of the computer so signpost (ii) does not point toward this application providing a technical contribution.

*Signpost (iii)*

32 The agent suggests in their letter of 28 February 2019 that the computer operates “*in a manner that minimises additional processing effort where a single sender is the source of multiple data messages*” and that therefore signpost (iii) was met. Again, the examiner disagrees saying that the computer itself has not been made to operate in a new way (notwithstanding that this requirement does not form part of the claims or contribution). They propose that the invention employs a general-purpose computer running a software program in the conventional manner and the computer is operating under the control of a new program rather than operating in a new way. The examiner suggests that any reduction in the required processing effort is the result of the program asking less of the computer’s hardware and not the result of a fundamentally better computer. I agree, the computer operates conventionally; the program operates in a new way and signpost (iii) does not indicate a technical effect.

*Signpost (iv)*

33 Looking at signpost (iv), the agent proposes in their letter of 28 February 2019 that the computer is “*running more efficiently and effectively as there is both greater accuracy and greater efficiency for handling situations where the computer includes*

*pinch points in a network such that the accuracy gains could otherwise be compromised*". The examiner does not believe this to be the case; they assert that while the computer program of the contribution may be more efficient or effective than previous document processing programs, there is no effect on how the computer itself operates beyond the normal interaction between a program and the computer. Instead, they say the contribution has the potential to reduce the number of processing steps a conventional computer needs to perform by means of a more efficient program. They also refer to the hearing officers' decisions in *Q Software Global* and *JDA Software Group* as supporting their conclusion. I agree, the program may be a better program but it does not make the computer run more efficiently and effectively as a computer and signpost (iv) does not assist the applicant.

#### *Signpost (v)*

- 34 The agent has consistently argued that signpost (v) points towards the contribution being technical. In their letter dated 28 February 2019, they state that "*the invention solves the problem of efficient and accurate matching of received data to data maps without mere circumvention*" and thus a technical problem is solved. In their letter of 21 May 2019, they develop this argument by arguing that the "*technical problem of how to ensure that information is extracted from electronic document as accurately as possible*" is solved. Finally, in their most recent letter dated 11 September 2019 they advance this argument one step further by arguing the technical problem solved is "*how to provide an implementation which allows accurate calculations to be performed automatically based on data which is extracted and processed from received documents in an efficient and adaptable manner*".
- 35 The examiner disagrees reiterating that matching maps to the sender's identity is known in the art and does not form part of the contribution. They state that the contribution concerns iterating through conventional maps until a working map is found and does not extend to any technical improvement to how data is extracted from a document nor has a technical aspect of inaccurate data extraction been solved. They also conclude that no technical improvement has been made to how any calculations are carried out as this is a generic calculation being performed by a conventional computer. They also say that, in this case, the goal of more efficient data processing is an administrative one rather than a technical one, and no technical improvements have been made to the underlying computer or how the calculations are performed. I agree that any perceived problems are administrative rather than technical so signpost (v) does not point towards the contribution providing a technical effect.
- 36 The AT&T signposts are not always determinative but looking at the contribution as a whole I have not been able to identify anything which is technical in nature and more than a better program (or business method). I find the contribution is also a program for a computer as such.
- 37 In their letter of 28 February 2019, the agent highlights a passage from the Hearing Officer's decision in *Landmark Graphics* (BL O/112/18) that "*where an applicant makes a reasonable case that their invention is patentable then [the Examiner is] bound to find in their favour*". They proposed that their submissions met this standard and accordingly the claims of the present application should not be rejected as constituting excluded matter. The examiner dismissed this submission noting that the

Hearing Officer's statement was prefaced with the caveat that the benefit of the doubt falls in the applicant's favour only where there is "such substantial doubt" regarding whether the claimed invention is excluded which was not the case. I agree; I have no doubt that the contribution in this application is excluded.

- 38 In conclusion I find that the invention defined by claim 1 is excluded by Section 1(2) of the Act as a method for doing business and program for a computer as such. The same conclusion applies to claims 12 and 23 and I have considered the whole specification including the dependent claims and cannot identify any features which would alter this conclusion.

### **Decision**

- 39 I have found that the contribution made by the invention defined by the claims falls solely in matter excluded from patentability by virtue of Section 1(2) of the Act as a method for doing business and program for a computer as such. I therefore refuse this application under Section 18(3).

### **Appeal**

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

**Mrs S E CHALMERS**

Deputy Director, acting for the Comptroller