



4 I note that the examiner had in his letter on 28<sup>th</sup> April 2011 highlighted a couple of minor matters, in paragraphs 13 and 14 of his letter, which Mr Exell agreed to address by further amendment. I am grateful to the examiner for his confirmation that these issues have now been addressed, following the amendment included with the applicant's letter on 11 July 2011, filed since the hearing.

### **The invention**

5 The application relates to an apparatus, system or method for providing information to a user. This is achieved by the use of a memory tag and a reader with a communications connection. The invention concerns the selective retrieval of data from those memory tags.

6 The context to the invention is in providing appropriate information to a particular user based on their user profile, stored on the reader. The application describes a variety of applications for such a system. For example the memory tags might be attached to items in a shop, so that the user can, using a scanner, retrieve selected information, such as allergy data relating to the user's nut allergy and which is set out in the user profile.

7 At the hearing, Mr Exell explained that the applicant had recognised that the prior art barcode system failed to provide sufficient information, or required the user's device to have access to a large database, for example by connecting to information through the internet. Mr Exell explained that memory tags, spots or Radio Frequency Identification (RFID) tags and readers were well established. The applicant had therefore proposed the use of a memory tag which could provide more data than a barcode or a simple identifier. The applicant had further realised that only a portion of that information was of interest to the user, and that the selection of particular data offered an advantage to the user. Mr Exell explained that this had several technically beneficial effects in providing a new arrangement of a system, that:

i) is more efficient

ii) requires less data to be communicated, reducing bandwidth demands

iii) provides a new way to provide data to a user

iv) provides a new structured memory tag

8 Mr Exell explained that the invention was realised in a new arrangement of hardware, which he accepted was implemented primarily through improvements to software and could be implemented as a computer program. Nonetheless, the invention provided what he argued was a technically elegant solution to provide a communications mechanism to selectively retrieve data from the tag.

### **The claims**

9 The amended claim set, before me and filed on 7 April 2011, contains 19 claims in total (including two omnibus claims), with claims 1 and 13 the main independent claims and directed to an apparatus and a method respectively for

the retrieval of data. As a logical result, I think, of Mr Exell's argument that one aspect of the invention was that it involved a new arrangement of a system, he also suggested that claim 11 amounted to another important claim. Claim 11 relates to a system including the apparatus of the earlier claims.

10 Claim 1 relates to:

*Apparatus for providing electronic data associated with an item to a user, the apparatus comprising:*

*a memory tag scanner arranged to communicate with a memory tag associated with an item;*

*a user profile memory arranged to store user profile data therein;*

*an output interface arranged to provide data to a user; and*

*a data processor arranged to cause data to be read from the memory tag associated with an item and the data to be selectively provided to a user via the output interface in accordance with the stored user profile data, wherein the data processor is arranged to determine the data to be selectively provided in accordance with the stored user profile and is operative to control the memory tag scanner to retrieve the selected data from the memory tag.*

Claim 11 is cast in dependent form as:

*A data communication system including an apparatus according to any preceding claim and a memory tag associated with an item, the memory tag encoding data that is readable by the memory tag scanner, the encoded data being divided into different parts each part being labelled by a machine readable label, wherein the data processor is arranged to determine one or more of the different parts of the data to be read in dependence on the machine readable labels and on the stored user profile.*

Claim 13 sets out:

*A method of providing electronic data associated with an item to a user the method comprising:*

*providing user profile data to a user apparatus;*

*operating the user apparatus to read electronic data from a memory tag associated with an item; and*

*selectively providing the electronic data to an output interface of the user apparatus in accordance with the user profile data, wherein the electronic data is selectively read from the memory tag in accordance with the user profile data.*

## Issue to be decided

- 11 The issue to be decided is whether the invention is excluded under section 1(2)(c) & (d) of the Patents Act 1977 because it relates to a business method, a computer program and the presentation of information as such.

## The law

- 12 The relevant parts of section 1(2) read as follows:

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

*(a) ...;*

*(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) the presentation of information;*

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

- 13 Current IPO examination practice is to use the structured approach set out by the Court of Appeal in its judgment in *Aerotel/Macrossan (Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application [2006] EWCA Civ 1371)* for deciding whether an invention is patentable. The test comprises four steps:

- 1) Properly construe the claim;
- 2) Identify the actual contribution;
- 3) Ask whether it falls solely within the excluded matter;
- 4) Check whether the contribution is actually technical in nature.

- 14 The operation of the test is explained at paragraphs 40-48 of the judgment. More recently, the Court of Appeal in the case of *Symbian [2009] RPC 1* confirmed that this structured approach is one means of answering the question of whether the invention reveals a technical contribution to the state of the art. In other words, *Symbian* confirmed that the four-step test is equivalent to the prior case law test of 'technical contribution', as per *Merrill Lynch, Gale and Fujitsu*. The result being that what matters is what the 'technical contribution' amounts to, not whether it happens to be implemented by a computer.

- 15 Mr Exell also referred in his skeleton arguments to *Merrill Lynch's Application (RPC 1989 561)*, where it was stated:

*"A data processing system operating to produce a novel technical result would normally be patentable. But it cannot, it seems to me, be patentable if*

*the result itself is a prohibited item under section 1(2)".*

and the *Oneida Indian Nation decision [2007] EWHC 954* in which it was stated:

*"The advantages relied on by Oneida seem to me to fall within the rider in Merrill Lynch. They are advantages of the new method of doing business and so fall wholly within the exclusion. Although they can be described as "technical", they do not count as such: they are not a relevant technical effect".*

- 16 Mr Exell did so to make the point that the presently claimed invention is directed to a generic apparatus, method and data communication system that may have many uses in many environments. The contribution resides in how the apparatus, method and data communication system works, not in the environment in which it may be used.
- 17 Mr Exell did not dispute that the correct approach was to follow the *Aerotel/Macrossan* approach to establish where that contribution resides.
- 18 Mr Exell presented arguments in the context of these cases and *AT&T Knowledge Ventures/Cvon Ltd [2009] EWHC 343 (Pat)* where Justice Lewison set out in paragraph 40, five signposts as follows:

*As Lord Neuberger pointed out, it is impossible to define the meaning of "technical effect" in this context, but it seems to me that useful signposts to a relevant technical effect 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 there is an increase in the speed or reliability of the computer;*
- v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.*

- 19 Given the emphasis of the application on the importance of the selection of data, I also raised the significance of *NTT* and *RIM v Inpro* at the hearing and gave Mr Exell the opportunity to file further comments on these cases. Mr Exell has since done so, in his submission on 19 July 2011, highlighting the selective reading of the memory tag. Indeed, the importance of selection is why I believe the *NTT* and *RIM v Inpro* cases are relevant, and had therefore asked Mr Exell to comment on them.
- 20 In *NTT* (paragraphs 20-24), the hearing officer, in relation to the reduced bandwidth required by selecting data, believed that the question of "how the network traffic is reduced" – was important. Such that improvements to the transmission network or the communications protocols were likely to provide a technical contribution. The hearing officer believed that the inventors' realisation that there is no point transmitting information that is not of interest was akin to

asking subscribers not to use the telephone unless their call is really necessary. Thus, the hearing officer believed that the invention did not solve the problem – it avoided it, and consequently refused the application.

- 21 In *RIM v Inpro*, the selection relied on the transfer of specific information about the characteristics of the field computer, and the proxy processing the data to transpose a web page to match the specific requirements (in terms of size and resolution) of the field computer. In the closing paragraphs 184-189, Justice Pumfrey highlighted that the invention there was concerned with how to transmit data to enable a field computer inadequate in processing and display power to browse the web and produce a result substantially better than its modest abilities would indicate. This held was patentable, on the facts, though he stated that he did not believe that the question required elaboration.
- 22 At this point, I would simply say, that selection is of course a fundamental part of computer programming, be that in selecting memory locations to retrieve data from or selecting what to do with that information. I shall return to this, when I consider the application of step 3 of the *Aerotel* test.

### **Arguments and analysis**

- 23 In his report of 28 April 2011, the examiner maintained that the invention was excluded under section 1(2)(c) & (d) as a business method, a computer program and the presentation of information. Whilst the application is claimed as an arrangement of apparatus and a method of selecting data to be retrieved by a scanner, he believed the contribution provided by the invention was the presentation to a customer, information regarding a product that the customer may be purchasing. The examiner argued that this was enacted by software running in a computing device, to select data from a memory tag in accordance with user profile data and to provide the selected data to an output interface.
- 24 At the hearing, Mr Exell maintained the view that the invention provided a new arrangement of a system which provided a technically elegant solution, enabling the selective retrieval of data. Whilst the context of the embodiments might be in, for example shopping or a museum, he believed that what was proposed was a new arrangement with particular technical benefits, therefore taking the invention outside of the business method, presentation of information and computer program exclusions of Section 1(2).
- 25 The examiner and the applicant therefore disagree on how the contribution of the invention is felt, and thus whether the invention falls outside of the exclusion.

### **First step: Properly construe the claim**

- 26 The examiner characterised the invention as relating to an apparatus and method of providing electronic data associated with an item to a user, wherein the data is selectively provided to the user via an output interface in accordance with user profile data to permit display or announcement of the most relevant data.
- 27 In their responses to examination reports the applicant has not suggested that there is any particular difficulty with the construction of the claim, and nor did Mr

Exell at the hearing. Though I note that Mr Exell did note that in contrast to the prior art bar code, what was proposed here was a memory device that stored more than simply a mere identifier.

28 There seems therefore to be no issue with construing the claims: I am also of the view that the claims relate to an apparatus, method, or system using that apparatus of providing selected data to a user of a memory tag scanner. The memory tag scanner is arranged to communicate with a memory tag associated with an item. A data processor is arranged to cause data to be read from the memory tag. Data is selectively provided to a user via an output interface in accordance with user profile data stored in a user profile memory. The data processor is operative to control the memory tag scanner to retrieve the selected data from the memory tag.

### **Second step: Identify the actual or alleged contribution**

29 The examiner has already identified documents showing arrangements using barcodes, or in the case of EP1117055, a microchip, electronic tag or smartcard and their readers have been used in similar applications. Of course, in this case the memory tag is, at least in the principal embodiment, a Radio Frequency (RF) tag. In broad part, Mr Exell has agreed with this, arguing that the inventor has developed a new arrangement of that hardware into a system that brings particular advantage by virtue of the format of data stored and selection of certain data. I can certainly agree with the second part of this, that the selection of certain data might bring particular advantages. I shall return to the first part of this later.

30 However, Mr Exell also provided an argument that the memory tag proposed in the invention amounted to a new device: a structured memory tag, which enabled the selection of data.

31 Paragraph 43 of *Aerotel/Macrossan* states that identification of the contribution is “an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are”; it is essentially a matter of determining what it is the inventor has really added to human knowledge, and involves looking at substance, not form.

32 Having given careful consideration to the arguments Mr Exell presented in respect of the structured memory tag being something of significance, I am not convinced. This is I think akin to what Jacob LJ was saying in *Aerotel/Macrossan* when he said:

“If an inventor claims a computer when programmed with his new program, it will not assist him if he alleges wrongly that he has invented the computer itself, even if he specifies all the detailed elements of a computer in his claim. In the end the test must be what contribution has actually been made, not what the inventor says he has made”.

33 I think what Jacob LJ was saying here is that there is a difference between the device on which data is stored and the format of the data itself. In this case, the applicant is using a generic memory device. What he has added to human knowledge is the format of data stored on that device. Mr Exell would appear to accept this point as the embodiment uses an extensible mark-up language (XML)

to label the data on the memory tag. The application is, in effect, focused on the type of information stored and not on the technical details of how such data is stored on the memory device.

34 Mr Exell summarised the technical benefits of this selection in a communication arrangement as threefold:

1<sup>st</sup> a higher efficiency device;

2<sup>nd</sup> better, indeed, lower use of bandwidth; and

3<sup>rd</sup> a new arrangement of apparatus, “opening a new pipe”

35 Therefore, having given careful consideration as to what I believe the inventor has added to human knowledge in line with paragraph 43 of *Aerotel*, it seems to me that the contribution lies in the decision of how to format data for storage and what data to select, in the context of the system, apparatus or method proposed for providing data to the user. Mr Exell has asserted that this arrangement is a technically elegant solution to a problem, and I will consider this at step 3.

**Third step: Ask whether the contribution relates solely to excluded matter**

36 I shall deal with the first two benefits proposed by Mr Exell together, that the resulting system is more efficient and uses lower bandwidth.

37 What I take from *Symbian* is that the mere use of conventional apparatus does not make something excluded into something for which patent protection may be obtained. Rather what is important is that the real world practical effect is a technical improvement to the capabilities of a device or a system. In *RIM v Inpro* (paragraph 184) the invention was concerned with **how** to transmit data per se, and of course in *NTT* the hearing officer suggested that new protocols, or other methods that allowed more information to be transmitted over a given bandwidth, would be patentable. However, *NTT* distinguished inventions where the selection was not in response to a technical problem with the bandwidth. At the current hearing, this was characterised as meaning that inventions which increased the size of a pipe were likely to be patentable, but that those were separate from inventions which simply selected which data to put into a pipe.

38 There is further guidance in the *CVON* signposts, referred to in paragraph 18 above, which both the examiner and Mr Exell have drawn upon. To take signposts i) – iv) first:

Applicant's arguments:

39 Mr Exell suggested that the presently claimed invention meets many of the signposts to technical effects set out in *CVON* and in particular:

i) the data communication does not occur entirely within a computer, it takes place between the apparatus and a memory tag. The technical effect is in the change in the way in which the communication takes place. Unlike in the prior art where a bar code or tag is read in its entirety and the reading takes as long as it takes to accomplish this, the presently claimed invention



goes about reading in a selective manner so that only necessary data is read and in the case of substantial amounts of data in a memory tag, such an operation may be significantly more efficient.

ii) the data itself is merely what is read. The functioning of the claimed invention operates irrespective of the data.

iii) selective reading of data from memory tags and in particular the operation of the apparatus and system to achieve this in the manner claimed is neither disclosed nor suggested in any of the prior art

iv) that the result was that data can be retrieved by the computer more quickly.

40 Mr Exell also sought to draw on the final sentence in paragraph 186 of *RIM v Inpro* where it says:

*“It is now settled, at least at this level, that the right approach to the exclusions can be stated as follows. Taking the claims correctly construed, what does the claimed invention contribute to the art outside excluded subject matter? The test is a case-by-case test, and little or no benefit is to be gained by drawing analogies with other cases decided on different facts in relation to different inventions... What the claims give is a technical effect: computers running faster and transmitting information more efficiently, albeit ultimately for the purpose of displaying part of that information.”*

#### Analysis

41 As I have already taken from the above, what is important here is how the selection is made, and what that effect amounts to. So having considered the examiner’s and the applicant’s arguments, I shall look afresh at the signposts one at a time:

i) Mr Exell has identified that there is some change to the bandwidth required by the invention, but I do not believe that this amounts to what the first signpost envisages. The present invention does not result in a change to the bandwidth of the communication link between the tag and reader. What does change is the amount of data that is sent over the bandwidth. In this case that information is the selection. As neither the structure of the tag nor the size of the communication link are changed, I can only conclude that there is no external effect and the first signpost must be answered in the negative.

ii) Here, I think that the particular wording is instructive, the effect must be produced irrespective of the data being processed or the applications being run. The contribution here lies in the format of particular data on the tag, and its selective retrieval. The examiner has already commented that this appears not to relate to something at the architectural level, and I agree; any effect is entirely dependent on the nature of the data being received and has no effect on component or part of the tag or the system. The effect, if one exists, is limited to how the data itself is processed. I therefore

conclude that this signpost must also be answered in the negative.

iii) In the earlier part of this decision I made it clear that I did not consider the memory tag or reader to operate in a new way. Specifically, the reader (computer) and the memory tag are simply executing conventional programming or data retrieval steps, according to the particular method proposed. I therefore conclude that this signpost must be answered in the negative.

iv) It is my view that the fourth signpost amounts to the same line of reasoning that must follow from the passage that Mr Exell draws from in *RIM v Inpro*. Where the computer completes steps faster or more reliably, then there will be a technical contribution – and this was what was achieved in that case, irrespective that the invention went onto select certain information to display. In the present case, I do not consider that the computer operates more reliably or faster. Any advances are in how an application running on the processor deals with the data - if you have less data your program or application will be quicker eg searching a database with less data will be quicker but that is not considered patentable. In this case the computer carries out its method steps at the same rate, or with the same reliability as it did before. Those steps might select particular information, but that is not sufficient to answer this fourth signpost in the affirmative. I therefore conclude that this signpost must be answered in the negative.

42 So having deduced that the first two benefits, do not result in the required technical contribution, I must turn to the 3<sup>rd</sup> suggested effect, that the overall system is a new arrangement. Mr Exell argued that the new arrangement means that information could be retrieved selectively, that could not be retrieved by the prior art. Nonetheless, it is clear that the arrangement of a tag and a scanner is well established, so this does not amount to a new arrangement of a system, rather it is the selection of information that is new. It is here I think that the fifth signpost from *CVON* comes in:

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

43 Here, the selection is made in response to the context; the advantages are not an improvement in the technical capabilities of the device. Rather it is the use of a conventional device, adapted, indeed programmed to respond to select information of particular relevance to the user. I therefore believe, in relation to the fifth signpost, that the current invention does not attempt to address some technical failing in the capabilities of a system of providing information, rather it attempts to circumvent the problem of a user having to read through information that may not be of interest to them, using a selection of particular data. I therefore conclude that this signpost must be answered in the negative.

44 Throughout my deliberations, I have given careful thought to both the applicant and the examiner's lines of argument. There is a problem in the context of the application of providing selected information to a user, based on a user profile which for example relates to a user's shopping preferences, but there is no

underlying technical problem which the invention as claimed addresses or solves.

45 I have therefore not found in any of the signposts provided by Justice Lewison in *CVON* a clear positive indicator.

### **Conclusion to step 3**

46 In my view therefore, taking the contribution as a whole, what I have identified is a computer program designed to select information which might be of particular interest to a user, i.e. a service is provided through implementation in a computer program. This is clearly a non-technical contribution falling within the computer program exclusion of Section 1(2).

47 I am not persuaded by the applicant's arguments that the invention provides a technical solution to a technical problem associated with low bandwidth, low efficiency or some other technical failing of the system. Neither do I consider that the system as a whole, exemplified by Mr Exell using claim 11, provides the necessary technical contribution. I am therefore, fully satisfied that the invention addresses/solves a non-technical problem through what Mr Exell accepted was implemented by the application of software, within a system.

48 It therefore follows that as a matter of substance, in line with *Aerotel* irrespective of the form of the claims, I find that the contribution relates solely to a computer program and consequently fails the third *Aerotel* step.

### **Step 4 – is the contribution technical in nature?**

49 I do not think it is necessary for me to consider this any further since I have dealt with this point in the third step. For my reasons explained above, I do not consider the contribution to be technical in nature.

### **Business method and presentation of Information exclusions**

50 In practical terms, as I have indicated, the proposed invention provides the user with what amounts to a better service i.e. more relevant information, rather than solving some technical failure within the device. I note Mr Exell's point that the claim does not require the use of the application within a particular business context, such as the examples of shopping or a museum. Similarly, the claim does not require a particular format of presentation of the selected information, though again presenting the information to the user in some way is part of the context of the invention.

51 However, having decided that the application relates solely to a computer program as such, I will not go on to consider the exclusions of a business method and the presentation of information as such.

### **Conclusion**

52 I find that the invention is excluded under section 1(2) because it relates to a computer program as such. I have carefully reviewed the specification and do not think that any saving amendment is possible. I therefore refuse the

application under section 18(3).

### **Appeal**

- 53 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

**C L Davies**

Deputy Director acting for the Comptroller