

## PATENTS ACT 1977

APPLICANT Symbian Limited

ISSUE Whether patent application number GB  
0329283.6 complies with section 1(2)

HEARING OFFICER R C Kennell

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## DECISION

- 1 The application was filed on 17 December 2003 with no claim to any earlier priority. It was published under serial no. GB 2409300 A on 22 June 2005.
- 2 The applicant has been unable to overcome the examiner’s objection that the invention in each case relates to a computer program as such and is therefore excluded from patentability under section 1(2) of the Act. This matter therefore came before me at a hearing on 6 August 2008. The applicant was represented by its patent attorney Mr Matthew Coyle-Gilchrist, and the examiner, Mr Jake Collins, assisted via videolink.

### The invention

- 3 The invention starts from the premiss that it is desirable in both personal and business situations for two strangers to be able to establish whether they have any mutual contacts. It aims to avoid the awkwardness and unpredictability that is sometimes involved in a conversational exchange by comparing contacts lists held on mobile computing devices such as mobile telephones, personal organizers and portable computers.
- 4 Claim 1 as originally filed read:  

“A method of communicating information between first and further computing devices, each having a communications capability, the method comprising comparing contact entries of a first contact store accessible by the first device and a further contact store accessible by the further device, and notifying at least one of the devices of contacts determined to be common to the first and further contact stores.”

5 Amended claims presented for my consideration at the hearing consisted of a main request and an auxiliary request. Claim 1 and 5 of the main request read:

“1. A method of communicating information between first and further computing devices, each having a communications capability, the method comprising:

comparing contact entries of a first contact store accessible by the first device and a further contact store accessible by the further device;  
and

displaying to the user of the first device those contacts determined to be common to the first and further contact stores,  
wherein the contacts in the further contact store that are not common to the first and further stores are not displayed to the user of the first device.”

“5. A method according to any preceding claim, wherein the step of comparing contact entries comprises:

applying a one-way function<sup>1</sup> to a contact field in the first contacts store to obtain a first result ;

applying the one-way function to a corresponding contact field in the further contacts store to obtain a further result; and

comparing the first result and the further result,  
and wherein the displaying the common contacts comprises:

displaying, to the user of the first device, those contacts in the first contact store to which the one-way function was applied and in respect of which the first and second results are the same.” ;

in the auxiliary request claim 5 becomes the main claim. Both requests include (as do the claims originally filed) claims to a computing device arranged to operate in accordance with the method and to computer software arranged to cause a computing device to operate in accordance with the method.

6 In a typical scenario, the first device seeks to discover a further device and initiate a comparison of telephone numbers held on the devices. If the further device accepts the request, the first device generates a hash key (an example of the one-way function of claim 5) and sends it to the further device. Using the hash key, both devices then generate digests of the telephone numbers they hold, and the second device sends individual digests to the first device for comparison against the digests on the first device. Any matches are notified to the second device, and all contacts referring to matching digests are displayed. The devices may communicate directly by a wireless or wired link, or via a network server which may hold the contact lists.

### **The law and its interpretation**

7 Section 1(2) reads:

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

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<sup>1</sup> Defined in Wikipedia as “a function which is easy to compute but hard to invert”

consists of –

- (a) a discovery, scientific theory or mathematical method;
- (b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;
- (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.”

8 It is not disputed that the assessment of patentability under section 1(2) is now governed by the judgment of the Court of Appeal in *Aerotel Ltd v Telco Holdings Ltd* and *Macrossan’s Application* [2006] EWCA Civ 1371, [2007] RPC 7 (hereinafter “*Aerotel*”). In this case the court reviewed the case law on the interpretation of section 1(2) and approved a four-step test for the assessment of patentability, namely:

- 1) Properly construe the claim
- 2) Identify the actual contribution (although at the application stage this might have to be the alleged contribution)
- 3) Ask whether it falls solely within the excluded matter
- 4) Check whether the actual or alleged contribution is actually technical in nature.

9 The operation of the test is explained at paragraphs 40-48 of the judgment. In particular:

- Paragraphs 41 and 47 explain that the test is consistent with the principles established in previous decisions of the Court of Appeal, and is a re-formulation in a different order of the approach in *Fujitsu*<sup>2</sup>, asking the same questions but in a different order.
- Paragraph 43 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.
- Paragraph 44 accepts that at the application stage the Office will generally have to accept what the inventor alleges to be his contribution, but that in the end the test must be what contribution has actually been made.
- Paragraph 45 explains that the third step – whether the contribution is “solely” of excluded matter - is merely an expression of the “as such”

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<sup>2</sup> Fujitsu Ltd’s Application [1997] RPC 608

qualification of section 1(2).

- Paragraph 46 explains that, although the fourth step of checking whether the contribution is technical may not be necessary because the third step should have covered the point, it is a necessary check if *Merrill Lynch*<sup>3</sup> is to be followed. Therefore, to repeat a point which arose in my recent decision in *Symbian Software* (BL O/218/08) and to which Mr Coyle-Gilchrist drew my attention, I do not see how a check for technical effect can be completely bypassed - whatever may have been said in earlier cases about the fourth step being merely a cross-check. I think paragraph 46 is merely making the point that the check for technical effect will in many cases have been disposed of in the third step. Thus, if any technical contribution is of purely excluded matter the invention will be excluded at the third step, and in such a case the fourth step will be unnecessary<sup>4</sup>.

### **Argument and analysis: application of the *Aerotel* test**

#### Step 1 – construction of the claims

- 10 The construction of the claims is not in dispute and I consider that they are clear in scope. I should however mention that Mr Coyle-Gilchrist thought the specification had not brought out the essence of the invention particularly well. Claim 1 of the main request therefore differed from claim 1 as originally filed in two respects:
- The requirement of displaying common contacts to the user of the first device replaces a requirement that the common contacts be notified to at least one of the devices. Mr Coyle-Gilchrist drew my attention to passages in the specification which suggested that display of contacts was consistent with the ultimate object of informing the user. He argued that notification of mutual contacts was of less importance since it merely saved the notified device from making its own comparison.
  - The claim now specifies that contacts which are not common are not displayed to the user of the first device. Mr Coyle-Gilchrist argued that this merely made explicit what was already implicit in the claim, since it made no sense to display contacts which were not mutual.
- 11 I accept that there would be very little point in displaying contacts which were not common, but at the hearing I expressed some reservations about whether a requirement to display common contacts was the same invention as originally claimed. However, I will leave for future consideration if necessary the question of whether the amendments in the main and auxiliary requests add subject-matter. I will therefore base my decision on the main and auxiliary requests, since Mr Coyle-Gilchrist's argument was directed wholly to them. Nevertheless, for completeness I will deal briefly with the original claims also.

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<sup>3</sup> Merrill Lynch's Application [1989] RPC 561

<sup>4</sup> Oneida Indian Nation [2007] EWHC 954 (Pat), paragraphs 10-11

## Step 2 – identifying the contribution

- 12 It was not disputed at the hearing that the prior art identified at the search stage did not disclose or point towards any comparison of entries held in contact stores to identify mutual contacts (although one of the documents cited as background art, US 5960430, mentions the use of a hash key to compare records in data sets). The nearest prior art against which the contribution fell to be assessed was therefore the brief discussion in the specification of the verbal method of establishing mutual acquaintances (which I shall refer to as the “manual method”, this being the term used in the correspondence and at the hearing ).
- 13 Following earlier attempts to amend the claims, Mr Coyle-Gilchrist and the examiner had by the time of the hearing reached a considerable measure of agreement as to what the contribution was. At the hearing, they agreed that the contribution of the main request could be defined in the following terms in which the highlighted wording reflected what the applicant now regarded as the essence of the invention:

“A way of automatically comparing two sets of data, stored in such a way that each is accessible to a different device; and providing the result in terms of common data entries to a user of one of the two devices, without revealing to the user those data entries that are not common.”

- 14 For the auxiliary request, they agreed the highlighted additions to reflect the further advantages of the one-way function:

“A way of automatically comparing two sets of data, stored in such a way that each is accessible to a different device, using a one-way function on the sets of data; and providing the result in terms of common data entries to a user of one of the devices, without revealing to the user those data entries that are not common and without revealing outside a device the data entries in the store accessible by that device.”

- 15 I am satisfied that these formulations correctly identify the contributions of the two requests as a matter of substance having regard to the factors mentioned in paragraph 43 of *Aerotel*.

Steps 3 and 4 – does the contribution relate solely to excluded matter, and is it technical in nature?

### *The main request*

- 16 As Mr Coyle-Gilchrist acknowledged, his dispute with the examiner was not so much about what the contribution was, but whether it related solely to excluded matter. He was at pains to refute the examiner’s argument that the contribution was simply the automation of the manual method and therefore excluded as a computer program. In his view, even though it was desirable to use a computer, the applicant had not “simply sought to protect the implementation on a computer of what had been done before” (*Raytheon Co* [2008] EWHC 1230 (Pat), [2008] RPC 3 at paragraph 36). Thus, taking account of the advantages and effects of

the invention and not just the features that were needed to achieve them, the contribution of the main request shifted the burden of comparing the contacts lists to the devices with the advantage over the manual method that neither of the users would have access to the other's list.

- 17 Mr Coyle-Gilchrist accepted that eliminating the burden and the possible social awkwardness involved in comparing contacts by the manual method were benefits to be expected from automation and would not of themselves avoid the computer program exclusion. However, he thought that the advantage in the above paragraph represented an advance in the field of data security rather than computer programming, and was sufficiently technical in nature not to relate solely to excluded matter.
- 18 He argued that if the contribution produced a technical effect that was the same irrespective of whether or not the invention was implemented by computer, then that pointed towards the contribution not consisting solely of a computer program. He sought to distinguish *Kapur* [2008] EWHC 649 (Pat), where Floyd J stated at paragraph 23:

“Of course the mere fact, on this assumption, that the claim is wide enough to encompass a manual implementation as well as a computer implementation does not mean that the claimed invention is not a computer program as such. The subject matter of the invention may be capable of being implemented in two ways, but the computer program extension will still bite to the extent that excluded subject matter is claimed.”

as a case where the contribution related simply to programming features which would not on their own make the claim allowable and could not be relied on to support a manual implementation. I note that there was a real doubt in *Kapur* as to whether the claim did in fact embrace manual as well as computer implementation.

- 19 However in the present case Mr Coyle-Gilchrist suggested that the contacts lists of the two devices could simply be handed to a trusted third party who would compare the lists and display to one of the users only the common contacts. It would still be the case that neither user would have access to other's list. As I understood it, Mr Coyle-Gilchrist regarded this not merely as a manual analogy but as an actual embodiment of the invention; indeed this is unambiguously stated in paragraph 7.7.3.14 of his skeleton argument for the hearing. He did not therefore think that the data security could be said to be an effect arising from computer implementation, although in practice a computer would be used. As he pointed out, *Raytheon Co* made clear (see paragraph 36) that the exclusion did not bite just because the only practical way to implement the invention was to use a computer.
- 20 However, I do see how such a method can be regarded as “a method of communicating information between first and further communication devices” as required by the claims, since the information is communicated between the users and bypasses the devices altogether. Nor does it square with the contribution

being a way of automatically comparing sets of data as agreed at the hearing. Although claim 15 of the original claims (retained in the main request as claim 23) requires the contact stores to be held by a third party, the only example of this in the description is a network server and there is no suggestion that it may be a person. I do not therefore consider the manual analogy to be within the ambit of the invention.

- 21 A number of other precedent cases were cited during the proceedings, of which I think I need mention only *Autonomy Corporation Ltd* [2008] EWHC 146 (Pat), [2008] RPC 16 and *RiM v Visto Corp* [2008] EWHC 335 (Pat) from which the examiner drew guidance. In *Autonomy* at paragraph 40 Lewison J considered that “automatic text analysis, comparison and results generation” was a paradigm example of a contribution squarely within the computer program exclusion, and in *RiM v Visto* at paragraph 147 Floyd J stated that the provision for data to be delivered from one element to another so that the data was accessible to a user at another computer was the sort of thing that computers did when programmed and was not enough of a technical effect to render the invention patentable.
- 22 Recognising the difficulty of making comparisons, which I accept, Mr Coyle-Gilchrist noted that *Autonomy* was concerned with automatic text analysis to generate a list of links related to the content in an active window; he thought this related wholly to computer features without there being some technical effect lying outside a computer program. In regard to Floyd J’s comment in *RiM v Visto*, he thought that the advantages of the invention were not simply the effects to be expected from running a computer program and that, unlike *Rim v Visto*, the invention was not dealing with a problem in a computer or a computer network.
- 23 Mr Coyle-Gilchrist did not seek to argue that there was anything other than a conventional arrangement of hardware. I agree, and since I do not accept that the above manual analogy is within the scope of the invention, it seems to me that the contribution resides wholly in the way the devices are programmed. I accept that the invention has a genuine advantage over the prior art “manual method” in that data entries which are not common to the devices are not displayed; data is therefore more secure to the extent that one user will not know the contents of the other’s list beyond the mutual contacts. Nevertheless, I think this is an effect caused wholly by the running of a program to manipulate and display the data held on the devices in a better way. I do not think that there is any technical improvement in the devices themselves or their operation, or in the way in which data is stored on them to make it more secure. I do not therefore consider the contribution to be the computer implementation of an otherwise allowable method, as Mr Coyle-Gilchrist argued on the basis of *Astron Clinica Ltd* [2008] EWHC 85 (Pat), [2008] RPC 16. I reach this conclusion irrespective of what is stated in *Autonomy* and *RiM v Visto*, but nevertheless I think that it is supported by the passages in these judgments to which the examiner drew attention.
- 24 The contribution of the main request therefore consists solely of a computer program and so it fails the third *Aerotel* step. In reaching this conclusion I have taken account of whether the contribution is technical in nature and so I do not need to go on to the fourth step.

25 If I am wrong about the manual analogy and it is an embodiment of the invention, then I accept that the contribution would not relate solely to a computer program. However, since it involves nothing more than a third party personally comparing lists of contacts and showing certain information from them to users of the devices, I do not think it would be sufficiently technical in nature to pass the fourth step. I do not therefore need to decide whether it is excluded as a mental act, a question which was touched on at the hearing in relation to the auxiliary request, but not argued either in correspondence or at the hearing.

#### *Auxiliary request*

26 The use of a one-way function such as a hash key has the further advantage that the actual contents of the contacts stores do not have to be revealed outside the device. Only the results of the one-way function are sent, and the contact information cannot be reconstructed from it. As Mr Coyle-Gilchrist explained, the data is not merely concealed to be decoded later; instead the one-way function acts “destructively” to create a representation of the data.

27 As with the main request, I accept that this is a genuine advantage, but again I consider the contribution to be an effect wholly caused by running a computer program to manipulate data using the known properties of one-way functions. I do not think that it introduces anything sufficiently of a technical nature to overcome my finding on the main request .

#### **Conclusion**

28 I therefore find that the inventions of claims 1 and 5 of the main request and claim 1 of the auxiliary request are excluded from patentability under section 1(2). Although, for the reasons explained above, I was not asked to consider the claims as originally filed, I think that my reasoning above would apply *mutatis mutandis* to the original claim 1.

29 Having read the specification I do not think that any saving amendment is possible. I therefore refuse the application under section 18(3).

#### **Appeal**

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

**R C KENNEL**

Deputy Director acting for the Comptroller



