UK Intellectual Property Office □□□□

For Creativity and Innovation

BL O/190/08

2 July 2008

**PATENTS ACT 1977**

| | |
|---|---|
| APPLICANT | AT&T Knowledge Ventures, L.P. (formerly SBC Knowledge Ventures, L.P.) |
| ISSUE | Whether patent application number GB 0602349.3 complies with section 1(2) |
| HEARING OFFICER | R C Kennell |

---

# DECISION

1 This application results from international application no PCT / US2004 / 019923, which was filed on 22 June 2004 and claimed a priority of 28 August 2003 from an earlier US application. The international application was published under serial no. WO 2005 / 024548 on 17 March 2005 and republished under serial no. GB 2419206 A upon entry to the UK national phase.

2 Despite amendment of the claims during substantive examination, the applicant has been unable to persuade the examiner that the invention is patentable within the meaning of section 1(2) of the Act. This matter therefore came before me at a hearing on 13 May 2008. On the substantive patentability issue, the applicant was represented by Dr Philip Cupitt, assisted by Mr Hugh Dunlop and Dr Louis Trichard, of the patent attorneys R G C Jenkins & Co; the examiner, Mr Ben James, assisted via videolink.

3 I was also asked to consider whether a request under rule 108(2) of the Patents Rules 2007 to extend the period for compliance with the Act and Rules to 28 April 2008 was made outside the period prescribed by rule 108(7) because of an irregularity in procedure by the UK Intellectual Property Office within the terms of rule 107. On this matter Mr Simon Malynicz, instructed by R G C Jenkins & Co, represented the applicant.

4 It was agreed at the hearing that I would decide this matter separately, and in a letter dated 15 May 2008 I accepted Mr Malynicz' arguments that there had been an irregularity in procedure; in consequence I accepted the late-filed request to extend the compliance period. I do not think I need to discuss the matter in any further detail in this decision. I have since accepted a request under rule 108(3)

for a discretionary further extension of the period to 28 June 2008, but this has now expired.

**The invention**

5 As the introductory part of the specification explains, increasingly there is diversity both of internet sites selling digital content and of devices which can be used by consumers to access the internet. The invention therefore aims to provide a hosted service which can manage the purchase history and digital content storage over a consumer's lifetime, particularly by re-obtaining content which has been lost, changing usage rights for content, and matching content to a device on which it is capable of being played.

6 The claims originally filed covered various aspects of this procedure, but the applicant has amended the claims (see letter of 13 July 2007) to provide independent claims 1, 18 and 44, which are set out in full in the Annex to this decision. Claims 11, 14, 17 and 28 cover various processes which use the system of claim 1. Although the applicant considers that these claims are not open to objection under section 1(2) and wishes to maintain them, it provided with its letter of 8 January 2008 an auxiliary set of claims in which claims 1 and 44 recite the device profile table as a positive feature. As will appear below, the arguments at the hearing centred on the role of this table.

7 As Dr Cupitt explained in his skeleton argument, the device profile table defines the technical capabilities of the various user devices that can be connected to the system, so that the system can select and supply content which is compatible with a given device. For example, as shown in Figure 2, the table includes for each device a unique device identifier such as a serial number or MAC address; the type of device (eg PC, set top, MP3, camera) and whether stationary or portable; a memory base address and memory high address to define the available memory range and addresses; the base address of the first unused memory block; whether or not the memory is removable; the media formats supported by the device; and the mode of operation of the device (eg master, slave, client).

**The law and its interpretation**

8 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 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.";

and the examiner has maintained objection under section 1(2)(c) on the highlighted grounds.

9 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.

10 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*[1], 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" 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*[2] is to be followed.

[1] Fujitsu Ltd's Application [1997] RPC 608
[2] Merrill Lynch's Application [1989] RPC 561

**Argument and analysis**

11 The thrust of Dr Cupitt's argument was that the device profile table made a technical contribution so that it did not relate as such to a computer program or business method, as alleged by the examiner. In order to establish this he took me through the four-step *Aerotel* test, and I will adopt the same approach.

Step 1 – construction of the claims

12 Although there was no issue of construction between Dr Cupitt and the examiner, Dr Cupitt wished to emphasise that the "user device" was a physical item of hardware with its own physical constraints, not merely an abstract computer program, and that the "device profile table" encapsulated key aspects of the functionality of these items of hardware.

13 I have no quarrel with this, but I do not think that it necessarily gets me very far. As a point of construction I do not regard the user devices as themselves constituting part of the claimed invention, which as I read it is a brokerage system for handling information about the devices. Further the "device profile table" of claims 1 and 44 does not have an exact counterpart in claim 18, which is worded in the rather broader terms of obtaining device profile information so as to enable content suitable for the device to be supplied. However I accept Dr Cupitt's point that this generally achieves the same effect.

14 If there is any problem here, I think it is not one of construing the claims but of determining what the contribution of the invention really is. To that I now turn.

Step 2 – identifying the contribution

15 As mentioned above, this is explained by Jacob LJ in paragraphs 43-44 of *Aerotel*. I think it bears emphasis that the contribution is to be determined as a matter of substance, not form; the mention of items of hardware in the claims may not therefore be enough of itself to avoid exclusion of an invention as a computer program.

16 Whilst Jacob LJ accepted that at the application stage the Office "must generally perforce accept what the inventor says is his contribution" he made clear that ultimately it would be the actual contribution which was decisive of the matter. This has been a bone of contention between Dr Cupitt and the examiner, and although in the end I do not think anything turned on it at the hearing, it raised some issues which I should consider.

17 Dr Cupitt maintained that it was necessary to determine exactly what information was available to the skilled person at the priority date in order to objectively identify the actual contribution, and was critical of what he saw as the Office's repeated refusal to conduct a search in order to establish this. Here the examiner based himself on the observations of the Deputy Judge in *CFPH LLC* [2005] EWHC 1589 (Pat), [2006] RPC 5 (decided before *Aerotel*) that the Office could rely on prior art searches to determine the advance in the art but was not invariably bound to do so, and of Pumfrey J in *Shopalotto.com Ltd* [2005] EWHC

2416 (Pat), [2006] RPC 7 that "there comes a point where the relevant matters are so notorious that a formal search is neither necessary nor desirable".

18 I think this remains good law. Although Jacob LJ makes no express reference in *Aerotel* to the examiner conducting a search, I think it is implicit from his remarks that there is no obligation on the examiner to establish whether the actual contribution is the same as what the applicant alleges. In my view the examiner was perfectly entitled to decline to carry out a search to establish what the contribution was.

19 Nevertheless, I think that in this particular case the waters have been muddied to some extent, first, by the fact that this is an international application on which the Office would normally go no further than topping up the search made by the International Searching Authority and not issue its own search report, and, second, by the rather late appearance of the international search report. At the hearing, Dr Cupitt was prepared to assess the contribution in the light of that report and I was content for him to do so.

20 The single document , US 6,263,318 B1 (Kimura et al), cited in that report discloses a "cyber mall server" acting as an intermediary between a "cyber mall client" (the consumer) and a "cyber shop client" (the digital services provider). The system is intended, if delivery fails, to allow digital content to be repurchased without repaying a price and re-inputting customer information. As I read it, the document does not disclose or suggest the storage of anything that could be regarded as "device profile information" (referring to claim 18) which could be communicated to a content provider in order to obtain digital content that is suitable for use on a particular device.

21 Dr Cupitt's formulation of the contribution in his skeleton argument was directed towards the device profile table which is featured in claims 1 and 44, but I think that I have to take account of the somewhat wider wording in claim 18. However in my view Dr Cupitt hit the nail on the head at the hearing when (see page 11 of the transcript of the hearing) he summarised the differences between the invention and the prior art as relating essentially to "the provision of information on the functionality of and capabilities of the user device to a third party content provider so that the third party content provider can then provide content that is appropriate to the technical capabilities and technical limitations of the user device".

22 Avoiding for the moment the question of what might constitute a "technical" capability or limitation, but having regard to the problem to be solved, how the invention works, and what its advantages are, I consider the contribution as a matter of substance to be:

> "In a brokerage system which interfaces to a network to allow a user to communicate with one or more third party digital content providers and to store and manage the digital content which he obtains, the provision of means to store information about the functionality and capability of one or more devices held by the user and to supply it to the provider so that the provider can supply content which is suitable for use on the device."

Step 3 – does the contribution relate solely to excluded matter?

*Computer program*

23 Dr Cupitt argued his case that the contribution did not relate solely to a computer program on two fronts: first, that it solved the physical and technical problem of ensuring that user devices received content appropriate to their inherent technical capabilities and limitations and avoided them receiving unplayable content; and, second, that the exclusion was intended to relate only to computer-executable instructions and not the data in the device profile table on which those instructions operated.

24 On the first approach, Dr Cupitt thought the contribution embodied a technical process lying outside the computer even if the only practicable way of implementing it was by means of a computer (see categories (iv) and (v) in the summary in *Autonomy Corp. Ltd.* [2008] EWHC 146 (Pat). He thought this was a novel technical result and contrasted it with cases such as the *Macrossan* appeal in *Aerotel*, *Gale*[3] and *Fujitsu*, all of which he thought had been excluded as essentially the computerisation of known processes.

25 Dr Cupitt also sought to draw an analogy with the arrangement of a cable television headend, which received signals from a number of broadcasters, aggregated the content (by multiplexing the signals) and distributed the aggregated content to a user. He submitted that that the question of excluded subject-matter would never have been raised for an improvement in the headend which was implemented entirely by a computer program, and thought that the present invention should not be prejudiced simply because it involved contemporary technologies such as computer programs, digital content, database tables and the Internet.

26 On the second line of his argument, Dr Cupitt took me to the outline in *Gale* (pages 320-321) of a how a computer operates, which had been provided by Mr Pumfrey (counsel for the comptroller as he then was). This explains that the computer memory stores either codes for operations to be carried out by the central processing unit (instructions) or operands which the cpu manipulates (data) and says that "What distinguishes a computer program is that it either is, or can be translated unambiguously into, a sequence of instructions capable of being followed by a cpu to produce desired manipulations of data in a predictable manner" (see also Nicholls LJ in *Gale* at page 324). Dr Cupitt felt that the distinction between instructions and data had been perpetuated in *Aerotel* where Jacob LJ had referred to a computer program as a "set of instructions", irrespective of whether it meant the instructions in an abstract form or whether it was on some form of media to give it practical utility.

27 Dr Cupitt thought that in this case the device profile table was the data *per se*; he did not accept the examiner's contention that the table was simply a database table populated with data on the devices that a user owns and was therefore

[3] Gale's Application [1991] RPC 305

simply a program up and running. Although Dr Cupitt emphasised that he was not suggesting the exclusion could be circumvented simply by including data in the claims as well as instructions, he thought that in a case such as the present the data did embody a technical process lying outside the computer instructions which therefore took it outside the exclusion.

28 I am not persuaded by either limb of Dr Cupitt's argument. I do not think that the contribution does in fact produce any relevant technical effect which would take it outside the computer program exclusion. It seems to me that in essence what the invention does is to provide, in a network-based system for supplying digital content, a more comprehensive list of information about the devices which the user owns, so that the supplier can avoid the risk of supplying digital content which cannot be used. Even if this is not simply the computerisation of a known process as was arguably the case in *Macrossan* and *Fujitsu*, I do not think that the contribution embodies any process for supplying content which exists outside a computer, or causes a computer to operate in any new way technically when processing information about the devices. Indeed, it seems to me that there is some similarity with *Gale* in that the invention provides a better way of carrying out something that a computer (or networked computer system) does, but not in a way which exists outside the computer or computer system. In my view there is ultimately no technical effect over and above the mere running of a program; the invention may well solve a problem but I do not think it is a technical one.

29 I do not find the supposed analogy with a cable television headend particularly helpful. I do not think that it is a case of prejudice against newer technology; each case has to be judged on its merits. As the examiner pointed out from his own experience of examining applications relating to cable television, a content aggregator or selector which was embodied in a computer program would not necessarily be saved from exclusion because it was intended for a cable television headend.

30 I accept that there is a difference in computing terms between instructions for processing and the data which is processed, but I do not think the distinction is decisive of whether or not the computer program exclusion applies, at least in this particular case. I do not think that the substance of the contribution in fact turns on whether it is worded as something capable of using data in a certain way (my formulation) or as a way of actually processing the data. I observe that, although in *Aerotel* Jacob LJ does at first sight equate a computer program with instructions, Macrossan's method for producing documents was still rejected (paragraph 73) as "the devised program up and running" even though the method required the presence of data in the form of answers to questions posed by the system. In my view similar reasoning can be applied in the present case. I think the presence of the data about the user devices, whether or not in the form of a profile table, would turn the bare instructions in the program into something either up and running or capable of being run, but still a program. I agree with the examiner's conclusion on this point.

31 It might be different if the presence of the data was decisive of whether or not a technical effect was present and I accept that it might then be possible to draft claims which avoided the exclusion as suggested in *Cappellini / Bloomberg LP*

[2007] EWHC 476 (Pat) at paragraph 17 to which Dr Cupitt referred me. However in that case Pumfrey J recognised that such a limitation might not always be possible, and for the reasons explained above I do not think there is anything technical about the data or the data profile table which could form the basis of a suitable limitation.

*Business method*

32 The examiner argued that the contribution was simply the automation of the process of a customer going into a shop and buying appropriate content for the devices that he had, and was therefore a business method implemented by a computer program. (I think a more complete analogy might require the customer to have an aide-memoire in the form of a list or table of the devices he possessed and their essential characteristics, so that he could better ensure that the content he was proposing to buy was appropriate.) Dr Cupitt thought this was an over-simplification which was not at all analogous to checking the technical capabilities of the device and delivering the right kind of content across a network. He thought that the device profile table was carrying out a technical rather a business or economic activity.

33 *Aerotel* holds (paragraph 67) that it is not necessary for a business transaction to be completed for the exclusion to apply. The line between a tool for use in business and a business method may not therefore always be easy to draw. However, bearing in mind that the contribution I have defined above is not the device profile table alone, but is overall a brokerage system for a user to obtain digital content, and that as explained above I have found there to be no relevant technical contribution, I consider that the contribution is in substance a scheme or method for doing business.

34 I do not therefore think (following the analysis of Kitchin J in *Raytheon Co* [2007] EWHC 1230 (Pat) to which Dr Cupitt directed me) there is any aspect of the contribution which is not within either the computer program or business scheme/method exclusions. It therefore fails the third step of the *Aerotel* test.

Step 4 – is the contribution technical in nature?

35 The contribution having failed the third step, it is not necessary for me to go on to consider the fourth step. However, for the reasons explained above, I do not think that the contribution is technical in nature.

**Conclusion**

36 In the light of my findings above, the invention of claims 1, 18 and 44 is excluded from patentability under section 1(2). Having read the specification, I do not think that any saving amendment is possible (including that in Dr Cupitt's auxiliary request). I therefore refuse the application under section 18(3).

**Appeal**

37 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal

must be lodged within 28 days.

**R C KENNELL**
Deputy Director acting for the Comptroller

**ANNEX TO DECISION O/190/08**

**Claims as amended on 13 July 2007**

1. A content broker hosting service system for storing and managing digital content for a user, the system comprising:

a network interface permitting data communication over a network with one or more third party content providers and the user, wherein the user requests digital content for use with a user device;

a content broker module coupled to the network interface for communicating with the third party content providers to acquire the requested digital content and associated digital rights licence keys on behalf of the user;

means for storing a device profile table coupled to the content broker module, the device profile table for storing device information of the user device, the device information including a device type of the user device and at least one type of media that can be played on the user device, wherein the content broker module further comprises:

means for registering the device information of the user device in the device profile table; and

means for providing the device information to the third party content providers for obtaining digital content that is suitable for use on the user device; and

a storage device coupled to the content broker module for storing the digital content on behalf of the user.

18. A system to provide a content brokerage service, the system comprising:

an interface to a distributed computer network, the distributed computer network providing access to a remote third party content provider and a user, wherein the user requests digital content for use with a digital device;

a content broker module coupled to the interface for communicating the request for digital content to third party content providers and acquiring the requested digital content on behalf of a user;

a single sign-on identity service to authenticate a user to a content brokerage service supported by the content broker module; and

a memory including content asset information and device profile information associated with at least one user and at least one user device, wherein the content broker module accesses the memory to retrieve the device profile information and communicates the device profile information to the remote third party content provider for obtaining digital content that is suitable for use on the user device; and

wherein the content broker module distributes an updated licence key and content to the at least one user for playback.

44. A content broker hosting system for storing and managing digital content for a user, the system comprising:

a network interface … [*as claim 1*];

a content broker module … [*as claim 1*];

an aggregated content server coupled to the content broker module, the aggregated content server comprising:

means for aggregating digital content titles from the third party content providers; and

means for providing digital content identified by the digital content titles to the user;

a single sign-on identity server coupled to the content broker module and operable to maintain user accounts and authentication credentials including password and biometric information to facilitate federation of the sign-on by third party content providers;

means for storing a device profile table … [*as claim 1*] … , wherein the content broker module further comprises:

means for registering … [*as claim 1*];

means for providing the device information … [*as claim 1*] …; and

means for providing user authentication from the single sign-on identity server to third party providers in response to the request for digital content; and

a storage device … [*as claim 1*].

**Claims 1 and 44 as proposed in the auxiliary request of 8 January 2008**

*Replace underlined wording in claims 1 and 44 by:*

a device profile table for storing device information of the user device, the device information including a device type of the user device and at least one type of media that can be played on the user device;

means for storing the device profile table coupled to the content broker module,

**R C KENNELL**
2 July 2008