



PATENTS ACT 1977

APPLICANT	Compurants Ltd
ISSUE	Whether patent application number GB 0917353.5 complies with section 1(2)
HEARING OFFICER	Mrs S E Chalmers

DECISION

Introduction

- 1 Patent application GB 0917353.5 entitled “Interactive food and/or drink ordering system” was lodged on 5 October 2009 and is divided from GB 0724312.4 filed on 13 December 2007 with an earliest priority date of 13 December 2006. The divisional application was published as GB 2464198 on 14 April 2010.
- 2 Despite amendment of the claims, the examiner has maintained that the invention claimed is excluded from patentability under section 1(2) of the Patents Act, on the grounds that it relates to a computer program as such. The applicant disagreed and, on 23 June 2011, a hearing was held before me via a video link to resolve the issue. The applicant was represented by Dr David Bottomley of Origin Limited. Mr Mark Thwaites was in attendance as hearing assistant.
- 3 Before the hearing Dr Bottomley submitted skeleton arguments which have been helpful in coming to my decision. Prior to the hearing, I viewed a short video provided by the applicant that is said to show the technology of this application in operation at a restaurant in central London. At the applicant’s request, I have also viewed the website¹ of that restaurant to gain a better understanding of the context of the invention.

¹ <http://www.inamo-restaurant.com/>

The application

- 4 The application relates to a computer-controlled interactive food and/or drink ordering system that can prompt a customer to place an order. In conventional restaurants, a waiter will present a customer with a menu and then return a few minutes later to take his order. On some occasions, the customer may not have made up his mind and the waiter may need to return a number of times to prompt the customer before an order is placed which causes an undesirable delay. The application is therefore concerned with encouraging customers to “get on with it” in the context of a “one-hour turnaround restaurant”.
- 5 The invention provides an ordering system which includes a computer controlled projector that projects images of a user interface onto the surface of a table, the images including selection options for ordering. The system is operable to prompt the customer when it has determined that the customer has not interacted with the ordering system for a defined period of time.

Claims

- 6 I have made my decision on the basis of the amended claims filed on 7 March 2011 and repeated in the skeleton arguments. These claims are supported by the disclosure in the parent application. There are 26 claims including 5 independent claims which are all based on the same inventive concept. They comprise an interactive ordering and prompting system (claim 1), use of the system (claim 23), a method of monitoring customer activity by use of the system (claim 24), a computer program product for running the system (claim 25) and a method of prompting a customer by operation of the system (claim 26).
- 7 Claim 1 reads:

An interactive food and/or drink ordering and prompting system including a table surface, an interface device, a projector mounted above the table surface and operable to project images of a user interface onto the table surface, and a computer that controls the projector, wherein the projector is operable to project selection options of the ordering system onto the table surface, the interface device operable by a customer to select selection options of the ordering system, wherein the ordering system is operable to determine how long the customer has waited without interacting with the ordering system and to determine that the customer has not interacted with the ordering system within a defined time, the system further operable to prompt the customer via the user interface in response to the determination that the customer has not interacted with the ordering system within the defined time.

The law

- 8 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) ...;

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.

9 It is not disputed that the assessment of patentability under section 1(2) is governed by the judgment of the Court of Appeal in its judgment in *Aerotel/Macrossan*². 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;
- 3) Ask whether it falls solely within the excluded matter;
- 4) Check whether the contribution is actually technical in nature.

10 The operation of the test is explained at paragraphs 40-48 of the judgment. Paragraph 43 confirms that identification of the contribution is essentially a matter of determining what it is the inventor has really added to human knowledge, and involves looking at substance, not form. Paragraph 47 adds that a contribution which consists solely of excluded matter will not count as a technical contribution.

11 The interpretation of section 1(2) has been considered by the Court of Appeal in *Symbian Ltd's Application*³. *Symbian* arose under the computer program exclusion, but as with its previous decision in *Aerotel/Macrossan*, the Court gave general guidance on section 1(2). Although the Court approached the question of excluded matter primarily on the basis of whether there was a technical contribution, it nevertheless (at paragraph 59) considered its conclusion in the light of the *Aerotel* approach. The Court was quite clear (see paragraphs 8-15) that the structured four-step approach to the question in *Aerotel/Macrossan* was never intended to be a new departure in domestic law; that it remained bound by its previous decisions, particularly *Merrill Lynch*⁴ which rested on whether the contribution was technical; and that any differences in the two approaches should affect neither the applicable principles nor the outcome in any particular case. But the *Symbian* judgment does make it clear, that in deciding whether an invention is excluded, one must ask does it make a technical contribution? It does not matter whether it is asked at step 3 or step 4. If it does, then the invention is not excluded.

Application of the Aerotel test

Step 1: Properly construe the claims

² *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371

³ *Symbian Ltd's Application* [2008] EWCA Civ 1066

⁴ *Merrill Lynch's Application* [1989] R.P.C. 561

- 12 I do not think this presents any problems. There are no difficulties of construction: the claims are clear and there has been no dispute regarding their meaning.

Step 2: Identify the actual contribution

- 13 Paragraph 43 of Aerotel explains the contribution is to be determined by asking what it is – as a matter of substance not form – that the invention has really added to the stock of human knowledge having regard to the problem to be solved, how the invention works and what its advantages are.
- 14 The applicant's position is that the contribution is the provision of an interactive food and/or drink ordering system including a table surface, an interface device, a projector mounted above the table surface and operable to project images onto the table surface, and a computer that controls the projector, wherein the projector the projector is operable to project selection options of the ordering system onto the table surface, and the interface device is operable by a customer to select selection options of the ordering system, and wherein the ordering system is operable to determine how long the customer has waited without interacting with the ordering system and to determine that the customer has not interacted with the ordering system within a defined time, the system further operable to prompt the customer via the user interface in response to the determination that the customer has not interacted with the ordering system within the defined time. In summary, the applicant's view of the contribution is that all of the integers of claim 1 are necessary for identification of the context of the invention and hence form the contribution of the invention.
- 15 Although no search under section 17 has been carried out for the present application, US2005/185825A1 (HOSHINO) represents close prior art and was cited in the prosecution of the parent application GB0724312.4. The document is also acknowledged in the applicant's skeleton arguments on this application. HOSHINO shows an information display terminal comprising a table on to which surface is projected images comprising a menu of options. The table is touch-sensitive and the user can select the desired option by pointing a fingertip. HOSHINO differs from the current system in that the projector is mounted below the table and there is no disclosure that the terminal prompts the user after a period of inactivity.
- 16 Interactive ordering systems are also known. For example, in the description of the prior art provided in the present application, a system is described as follows:

Description of the Prior Art

There is considerable pressure on restaurants to increase the speed and reliability with which orders are taken and also the speed at which a bill ("check" in US English) is presented to a customer after requesting. One approach to addressing this problem is to provide a large touch screen monitor plus PC embedded into each table top. The monitors are connected to the menu point of sale system that provides orders to the kitchen. But the tables are very costly and the combined screens/tables can be damaged if the table is knocked. The glass (or acrylic) tops of these tables also have to be thick, making the tables very heavy and hence difficult to move – a problem in many restaurant environments, especially for cleaning.

Another problem with touch screen displays with very thick glass is that the actual

display surface can be several mm away from the top surface – introducing a barrier and related parallax effects, which can make the process of using them seem unnatural. A further problem is that providing power and data cabling to tables in a restaurant can be very costly.

17 So what *in substance* has been added to the stock of human knowledge? Both the computer hardware and the other physical elements of the system appear to be conventional. Ceiling-mounted projectors are known. The software in the claimed system and the use of projected images and an interface device also appear to be conventional. In particular, it is well known to project images or icons on to a surface and for a user to use an interactive device to select an icon to cause a message to be sent to another computer-based application. A typical example might be a speaker in the course of a presentation using a mouse pointer to click on an icon projected on to a screen to open another application. In addition, the prompting of a computer system user after a period of inactivity is also commonplace. One example is an electronic cash withdrawal machine which asks the user if he needs more time if there is a delay in entering a PIN number.

18 I must confess I am therefore struggling to identify exactly where the contribution lies. However, as far as I can see, the contribution appears to lie in the computer program which determines how long a customer has not interacted with the system and which prompts the customer to use the system. I find that the contributions for independent claims 23-26 to be the same as for claim 1.

Steps 3 and 4: Ask whether the contribution relates solely to excluded matter and check whether it is technical

19 So, does the contribution fall solely within the excluded subject matter? In considering the nature of this contribution, I am mindful of paragraph 22 of *Aerotel/Macrossan*, which reminds me that just because a computer is used in an invention, it does not necessarily mean that the invention is excluded from patentability. The Court of Appeal in *Symbian* gave useful guidance at paragraphs 52-58 as to when a program might make a technical contribution sufficient to avoid the exclusion. It particularly emphasised (see paragraph 56) 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”. At paragraph 58 the Court stated that a technical innovation, whether within or outside the computer, would normally suffice to ensure patentability.

20 With regard to claim 1, the applicant states that the contribution “does not fall solely within excluded matter, as it includes the provision of interactive food and/or drink ordering system including a projector mounted above the table surface, wherein the system is operable to prompt the customer via the user interface in response to a determination that the customer has not interacted with the ordering system within a defined time”. This, he argues, takes the contribution beyond excluded matter as such as it is technical in nature.

21 Whilst I agree that the invention is technical in the broadest sense in that it involves a computer, the enquiry is whether the contribution relates solely to excluded matter and whether it is technical or not. On this occasion however, I am clear that the contribution made by the invention does relate to excluded

matter as such and does not have a relevant technical effect. Furthermore, I do not believe that the present invention provides a technical contribution of the type found in *Symbian*. In particular, a computer with the program of the present application does not provide, as a matter of practical reality, a “faster and more reliable computer”.

- 22 Having reached this conclusion I derive further reassurance from looking at the five “signposts” that may indicate that there is a relevant technical contribution, as set out by Lewison J in *AT&T/CVON*⁵:

It seems to me, therefore, that Lord Neuberger's reconciliation of the approach in Aerotel (by which the Court of Appeal in Symbian held itself bound, and by which I am undoubtedly bound) continues to require our courts to exclude as an irrelevant "technical effect" a technical effect that lies solely in excluded matter.

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.

- 23 With reference to the first signpost, Dr Bottomley argued that the technical effect was that the prompting of the customer and the interaction between the customer and the computer are processes which occur outside of the computer. He also asserted that the invention involved photons hitting the table and going to the eyes of the customer which is also a process occurring outside of the computer. I disagree with the applicant. In my view the contribution does not have a technical effect on a process outside the computer; it merely issues prompts and images for the user for use in placing an order via the computer itself. *Gemstar*⁶ was mentioned by Dr Bottomley during the course of the hearing to support his view that the prompting of a customer was technical although he did not elaborate on this point. As made clear in paragraph 43 of *Gemstar*, the mere display of information or the presence of an interface is not considered sufficient to provide a technical contribution. Therefore, the first signpost of technical effect is not satisfied.

⁵ AT&T Knowledge Ventures LP and CVON Innovations Limited [2009] EWHC 343

⁶ Gemstar –TV Guide International Inc v Virgin Media Limited [2010] RPC 10

- 24 Secondly, the contribution does not operate at the level of the architecture of the computer; it does depend on the data being run, namely the selection of images or icons by a user and the times that selections or interactions occur. Thirdly, the contribution does not result in a better computer; the computer merely operates in a standard way implementing an interface and processing user inputs to it. Fourthly, the contribution does not produce a more reliable computer, it merely provides a user prompt and interface with no effect on the reliability or otherwise of the computer implementing the interface.
- 25 With reference to the fifth signpost, Dr Bottomley argued that the invention overcame the problem of determining how long the customer has waited and of prompting the customer after a defined waiting time, it did not merely circumvent the problem. It is commonplace for waiters to give customers an allowable period of time to make up their mind before prompting the customers to order. In my view, the contribution merely facilitates the prompting of the customer by providing the prompt via a computer rather than via the waiter. Although it may enable this action to be done more quickly, I cannot see that computerising it overcomes any technical problem. Indeed, encouraging customers to order promptly when a restaurant is full or encouraging them to stay longer and order more when it is quieter are methods of doing business. Therefore I conclude that in a technical sense, a problem is not overcome by the contribution.
- 26 I conclude that none of the signposts indicate that the computer program provides a technical contribution. It therefore falls at the third and fourth steps of the test.

Conclusion

- 27 I find that the invention is excluded under section 1(2)(c) because it relates to a program for a computer as such. I have carefully reviewed the specification but do not think that any saving amendment is possible. I therefore refuse the application under section 18(3).

Appeal

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

MRS S E CHALMERS

Deputy Director acting for the Comptroller