



## PATENTS ACT 1977

APPLICANT Avaya Management L.P.

ISSUE Whether patent application GB2109343.0 is excluded under section 1(2) of the Act

HEARING OFFICER Laura Starrs

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### DECISION

#### Background

- 1 This patent application, entitled “Intelligent Interactive Voice Response (IVR) Navigator” was filed in the UK on 29 June 2021 in the name of Avaya Management L.P. The application claims a priority date of 30 June 2020 and has been published as GB 2,598,658.
- 2 The examiner is of the view that the claimed subject matter relates to a computer program and/or a method of doing business. Despite several amendments to the claims and accompanying reasoned arguments, the applicant has been unable to persuade the examiner otherwise.
- 3 A further set of amended claims was filed on 23 July 2024 for consideration at the hearing, though there were no changes to the independent claims. I can confirm that I have read and taken account of all the earlier correspondence, which may be viewed at the IPO’s online file inspection service<sup>1</sup>.
- 4 The matter came before me at a videoconference hearing on 30 July 2024. The applicant was represented by David Williams of Page White & Farrer Ltd.

#### The invention

- 5 Making a phone call to a contact centre can be a time consuming and frustrating experience for a customer, particularly when navigating an interactive voice response (IVR) menu. The applicant has sought to overcome this issue by providing a navigator which can automatically respond to the menu choices on the customer’s behalf. The navigator is not entirely autonomous; it requires inputs from the customer to guide the actions that the customer would wish the navigator to take. The navigator is not foolproof; there are some prompts from the contact centre that it

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<sup>1</sup> <https://www.ipo.gov.uk/p-ipsum/Case/ApplicationNumber/GB2109343.0>

cannot adequately respond to, but it recognises when this occurs and arranges for the customer to manually intervene.

- 6 The most recent set of claims includes corresponding independent claims directed towards a method, a system and a computer program. The discussion at the hearing was focussed on claim 1, which reads:

A method in a system including at least one customer communication device, at least one contact center including one or more servers and an interactive voice response, IVR, system for providing self-service capabilities to customer communication devices, and an intelligent interactive voice response, IVR, navigator including a processor and computer memory storing data thereon, configured to interact with the IVR system of the at least one contact center and the at least one customer communication device, the method comprising:

receiving one or more inputs from the customer communication device at the intelligent IVR navigator, wherein the one or more inputs define a desired action to take on behalf of a customer associated with the customer communication device with self-service capabilities of the at least one contact center;

storing, in the memory of the intelligent IVR navigator, the desired action to take on behalf of the customer;

obtaining contact information of the at least one contact center providing the selfservice capability;

using the contact information to automatically establish a communication session with the at least one contact center providing the self-service capability;

receiving at the intelligent IVR navigator a prompt from the at least one contact center providing the self-service capability;

in response to receiving the prompt, at the intelligent IVR navigator accessing the memory;

performing at the intelligent IVR navigator the desired action as a response to the prompt, wherein the desired action is performed during the communication session on behalf of the customer communication device, without requiring further input from the customer communication device;

receiving at the intelligent IVR navigator a second prompt from the at least one contact center providing the self-service capability;

determining that the second prompt requires input from the customer communication device; and

providing the customer communication device with information describing the second prompt along with access to the communication session, thereby enabling the customer communication device to respond to the second prompt from the at least one contact center providing the self-service capability.

- 7 Some of Mr Williams' argument at the hearing relied on features which are not present in claim 1, but which are explicitly mentioned in claim 2 as amended. Claim 2 is as follows:

The method of claim 1, wherein the intelligent IVR navigator determines that the second prompt requires input from the customer communication device based on determining that the second prompt is indicative of the at least one contact center providing the self-service capability being stuck in a logic loop, being unable to communicate meaningfully, proving [sic] the same message repeatedly, or being stalled.

### **The law**

- 8 Section 1(2) of the Act lists certain categories of subject-matter which are excluded from patent protection.

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

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

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

- 9 The test for establishing whether a patent application relates to one of these excluded categories is set out in the Court of Appeal's judgement in *Aerotel*<sup>2</sup>. In *Comptroller General of Patents, Designs and Trade Marks v Emotional Perception AI Ltd*<sup>3</sup> the steps of the test were expressed as follows:

- (i) properly construe the claim;
- (ii) identify the actual contribution (although at the application stage this might have to be the alleged contribution);
- (iii) ask whether it falls solely within the excluded subject-matter;
- (iv) if the third step has not covered it, check whether the actual or alleged contribution is actually technical in nature.

- 10 In *Symbian*<sup>4</sup> the Court made clear that the question of whether a computer implemented invention is patentable has to be resolved by asking whether it reveals a technical contribution to the state of the art.

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

<sup>3</sup> *Comptroller General of Patents, Designs and Trade Marks v Emotional Perception AI Ltd* [2024] EWCA Civ 825

<sup>4</sup> *Symbian Ltd v Comptroller-General of Patents* [2008] EWCA Civ 1066

11 Lewison J (as he then was) in *AT&T/CVON*<sup>5</sup> set out five signposts that he considered to be helpful when considering whether a computer program makes a technical contribution. In *HTC*<sup>6</sup> the signposts were reformulated slightly in light of the decision in *Gemstar*<sup>7</sup>. The signposts are:

i) Whether the claimed technical effect has a technical effect on a process which is carried on outside the computer.

ii) Whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run.

iii) Whether the claimed technical effect results in the computer being made to operate in a new way.

iv) Whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer.

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

### **Arguments and analysis**

#### *Step 1- Properly construe the claim*

12 Mr Williams confirmed that there is no disagreement between the examiner and the applicant on the issue of claim construction. I concur; the claims are clear, and easily construed.

#### *Step 2 - Identify the actual contribution*

13 The examiner has assessed the contribution to be:

An intelligent IVR navigator that interacts with a customer communication device to receive inputs defining desired actions to take on behalf of a customer and interacts with a contact centre to perform the automatic navigation of a self-service system to perform an action on behalf of a customer in response to a first prompt, without any further input from the customer, based on previously entered inputs from the customer, and in response to a second prompt that requires input from the customer, providing the customer with information describing the second prompt along with enabling the customer to respond to the second prompt

14 Mr Williams confirmed that he was generally happy with this assessment of the contribution, but was eager to emphasise that the computer should be considered as the three-element structure of the system (i.e. the customer communication device,

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<sup>5</sup> *AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat)

<sup>6</sup> *HTC Europe Co Ltd v Apple Inc* [2013] RPC 30

<sup>7</sup> *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10

the IVR navigator, and the contact centre) and the communication channels that exist between these three elements.

- 15 The examiner's assessment of the contribution seems to me to be entirely reasonable, and moreover it adequately encompasses the point that Mr Williams wished to emphasise.

*Step 3* - Ask whether the contribution falls solely within the excluded subject-matter

- 16 There can be no doubt that this invention is computer implemented, though of course I note Mr Williams' emphasis on the structure of the system and its communication channels. In such cases, the *AT&T* signposts can be helpful in pointing towards the existence of a possible technical contribution, and Mr Williams addressed me on signposts (iii),(iv) and (v).
- 17 Mr Williams did not present any argument in relation to the first and second of the *AT&T* signposts. For the sake of completeness, I will simply say that I have considered whether these two signposts might assist the applicant's case, and I do not believe that they do.

Signpost (iii) - does the claimed technical effect result in the computer being made to operate in a new way?

- 18 Mr Williams' first point in relation to this signpost is that there is a preliminary question that may be asked, namely whether the computer itself is new. Whilst he did not say so, he was perhaps hinting at an argument along the lines of a new computer inevitably working in a new way. Mr Williams says that the computer, in this case, is the system that comprises three elements – an IVR navigator, a customer's communication device, and a contact centre. So, is such a system new? In his observations on the difference between the invention and the state of the art, Mr Williams appeared to concede that it is not. The examiner is of the view that the system itself is not new arguing that the hardware of the three elements is standard as are the communication channels between the elements. In support of their argument the examiner has cited some prior art<sup>8</sup>. Having considered this prior art, I agree with the examiner's view. However, Mr Williams' submission is that whether the system per se is new is a moot point because the system is operating in a new way.
- 19 The argument Mr Williams makes is that the claimed invention has a degree of sophistication that is not present in the prior art. That sophistication, Mr Williams explained, is the ability of the IVR navigator to recognise that point in its interaction with the contact centre at which it can no longer proceed and to then communicate with the customer's communication device thereby enabling the customer to respond.
- 20 Claim 2 as amended provides a concrete example of what sets the invention apart from the prior art, according to Mr Williams. In simple terms, when the contact centre asks the same question repeatedly because the IVR navigator has provided a

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<sup>8</sup> US 2018/0234545 (BARAK et al), see figure 1

meaningless response, then the navigator gets the customer to provide the response to avoid getting locked indefinitely in a logic loop.

- 21 It is worth noting that when making this comparison with the prior art, Mr Williams was not referring to a particular piece of prior art. He readily acknowledged the closest prior art cited by the examiner, mentioned above, but his argument was more generally that the invention involved an enhancement over any prior art arrangement, and moreover that the enhancement was at a technical level. Mr Williams made the point that the recognition of a lock-up situation was a clear distinction over any prior art. Obviously, I cannot consider every conceivable piece of prior art, but I have read in detail the closest prior art cited by the examiner and it does not disclose anything about the recognition and avoidance of a lock-up situation. Therefore, I am content to accept that there is a distinction over the prior art even if one should have to look to claim 2 as amended to find it.
- 22 Mr Williams argued that an important aspect of the distinction is the two communication channels which enable the recognition of a lock-up situation. Not only does the IVR navigator communicate with the contact centre, but messages are also exchanged between the IVR navigator and the customer communication device. Mr Williams submitted that those messages are absent from the prior art. I am not convinced that there is as much in this point as Mr Williams would suggest, because the prior art cited by the examiner clearly has these two communication channels<sup>9</sup>. Any difference can only reside in the content of the message; the technical means for exchanging the messages is not something that distinguishes the invention from the prior art.
- 23 So, in terms of hardware the system per se is clearly already known in the prior art, but as Mr Williams has explained the system is doing something different. The question is whether that difference is indicative of a computer operating in a new way.
- 24 There is a sense in which any computer system which is programmed to do something different operates in a new way, but for the third signpost to point towards a technical contribution there must be something more than that. This is clear from paragraphs 30-31 of *AT&T* which give some insight into what a new way of operating a computer means in the context of the third signpost. These paragraphs refer to *Gale's Application*<sup>10</sup> in which Nicholls L.J. had said that Gale's attempt to patent a new algorithm for the calculation of square roots embedded on a silicon chip did

“not define a new way of operating the computer in a technical sense, to adopt the expression used in *IBM Corp./Document abstracting and receiving* (Decision T22/85), [1990] E.P.O.R. 98, 105”

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<sup>9</sup> As is clear from figure 1 of US 2018/0234545

<sup>10</sup> *Gale's Application* [1991] R.P.C. 305

In *AT&T*, Lewison J explained what he felt Nicholls L.J. understood by “in a technical sense”, as follows:

“it points towards some generally applicable method of operating a computer rather than a way of handling particular types of information.”

- 25 In my view the computer system in this instance is not working in a new way in any technical sense. There is no generally applicable method of operating a computer here. It is simply programmed to follow a different set of instructions. If a certain criterion is met (a prompt is received that is recognised to require customer input) then a certain action is carried out (the customer is engaged in communication with the contact centre). Following that instruction does not involve the computer system operating in a new way. It is merely a way of dealing with a particular situation that exists when handling a particular task.

Signpost (iv) - does the program make the computer a better computer in the sense of running more efficiently and effectively as a computer?

- 26 Mr Williams’ argument based on the fourth signpost is that the computer system is more efficient because it can avoid a lock-up scenario which would involve the system exchanging unproductive messages which consume operational bandwidth between the IVR navigator and the contact centre. There is, of course, one extra message that the IVR navigator sends to the customer’s communication device when it determines that the assistance of the customer is needed, but there would be a reduction in the number of messages overall.
- 27 Mr Williams contrasted the invention to a prior art arrangement which has no means of recognising when the IVR navigator has reached a point at which it can no longer respond to the contact centre. In such a case, the only hint that something is amiss is the elapsed time since the commencement of the interaction between the navigator and the contact centre. By the time the customer realises that there is a problem there will inevitably have been unproductive exchanges between the navigator and the contact centre. The invention, on the other hand, recognises a problem very quickly – perhaps after a single repeat of a prompt from the contact centre.
- 28 The examiner has made the well-established point that reducing load on a processor and making economical use of memory does not necessarily meet the terms of the fourth signpost, with reference to the comments of Lewison J in *Autonomy*<sup>11</sup>. Whilst Mr Williams agreed that the invention provides these benefits, he argued that the invention goes further in that it additionally has technical benefit of reducing the amount of data that is exchanged between the navigator and contact centre with the knock on effect that capacity is freed-up to perform other tasks, such as dealing with another action with a contact centre on behalf of the customer, or providing a similar service for another customer.
- 29 There is no doubt that if an IVR navigator contacts the customer for assistance at the first sign of a problem then from the customer’s perspective it is a more efficient and

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<sup>11</sup> *Autonomy Corp Ltd v Comptroller General of Patents, Trade Marks & Designs* [2008] EWHC 146 (Pat)

effective process than simply waiting until they get frustrated and then having to check on the progress of the navigator. But it does not necessarily follow from this that the computer itself is better in the sense of running more efficiently and effectively as a computer. The fourth signpost, as is clear from both *AT&T*<sup>12</sup> and *HTC v Apple*<sup>13</sup>, is intended to reflect the essential reasoning of *Symbian* and as such there is more to the signpost than simply identifying efficiency or effectiveness. There must be a better computer.

- 30 In light of *Symbian*, one way in which an invention might be seen to relate to a better computer in the sense of the fourth signpost is whether it involves the solution of a technical problem lying within the computer itself<sup>14</sup>. There is a problem here, of course. The problem, put simply, is that the IVR navigator can stall because it cannot answer every question that the contact centre asks of it, constrained as it is by the information input by the customer. Stalling because it receives an input which cannot be processed is a flaw in the computer's programming, and not a technical problem lying within the computer itself. By overcoming the problem, the applicant has no doubt provided a better program, but the computer is not a better computer. It is no more efficient and effective as a computer; it simply has a better set of instructions.
- 31 As Lewison J explained in *AT&T*<sup>15</sup>, another indicator of a better computer is the claimed invention involving an effect on the computer which is independent on the data being processed or the particular application being used i.e. an invention which operates at a higher level of generality within the computer. That is not the case with this invention. It may prevent lock-ups and thus reduce the number of messages sent, thereby freeing up capacity to perform other actions, but it does this only in one very specific context. These advantages are indicative of better programming, rather than of a better computer in the sense of the fourth signpost.

Signpost (v) - is the perceived problem overcome by the claimed invention, or is it merely being circumvented?

- 32 Mr Williams's submits that the fifth signpost points towards patentability because the invention provides a technical solution to a technical problem, but I have already concluded that the only problem to be solved here is of a non-technical nature. The problem to be solved is one of the IVR navigator stalling due to it being unable to process an input. The solution to this problem is for the IVR navigator to contact the customer for assistance. This is a problem in the computer's programming, not a technical problem within the computer itself, and the solution merely circumvents the problem by contacting the user for help at an earlier point than in prior art systems. Accordingly, I do not see how the fifth signpost helps the applicant's case.

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<sup>12</sup> See paragraph 34 of *AT&T*

<sup>13</sup> See paragraph 150-151 of *HTC v Apple*

<sup>14</sup> See paragraph 54 of *Symbian*

<sup>15</sup> See paragraphs 33-34 of *AT&T*

*Step 4 - Is the contribution actually technical in nature?*

- 33 The final step of the *Aerotel* test is to check whether the contribution is actually technical, but having already determined that the contribution falls entirely with the computer program exclusion it must also fail at this step.

*Method of doing business*

- 34 The examiner has also objected that the claimed invention relates to a method of doing business. Mr Williams did not address me in any detail on this issue, other than to make the point that whilst the invention plainly provides a business advantage the fundamental issue was whether the invention is a technical one which addresses a technical problem and provides a technical solution. However, having already determined that the invention relates to a computer program which does not reveal a technical contribution, I see no need to address the business method issue.

**Conclusion**

- 35 I have found that the claimed invention is excluded from patentability under section 1(2) of the Patents Act as it relates to a computer program as such.
- 36 I have carefully considered the dependent claims, and the description, and I do not see anything which could form the basis of a valid claim.
- 37 Therefore, I refuse the application under section 18(3).

**Appeal**

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

**Laura Starrs**

Patent Examination Group Head