Intellectual Property Office

BL O/332/21

05 May 2021

PATENTS ACT 1977

PARTIES	Pegasystems Inc.
ISSUE	Whether patent application GB1710361.5 complies with Section 1(2) of the Patents Act 1977
HEARING OFFICER	Ben Buchanan

DECISION

Background

1 This decision relates to whether patent application GB1710361.5 complies with Section 1(2) of the Patents Act 1977 ("the Act").

2 The application was filed on 28 June 2017 with a claim to a priority date of 11 July 2016. The application was published on 25 April 2018 as GB2555157A.

3 Despite combined search and examination being requested, the examiner issued a report stating that a search would serve no useful purpose on 14 December 2017, accompanied by an examination report objecting to the application on the basis that it was excluded from patentability as a program for a computer as such. Despite several rounds of amendment and argument the examiner has maintained that objection. The applicant requested to be heard on the matter in their letter of 17 December 2020, but that request was subsequently withdrawn in favour of a decision based on the papers on file.

4 The only matter which falls to be decides is whether or not the invention is excluded, under Section 1(2)(c) of the Act.

5 In deciding the matter, I confirm that I have taken account of all the relevant documentation on file, in particular the applicant's letter of 17 December 2017 and the examiner's pre-hearing report of 28 January 2021. These set out the positions of the applicant and the examiner respectively. The claims at issue are the amended claims filed with the applicant's letter of 17 December 2017. The application remains unsearched and so if I find in favour of the applicant, the application will be remitted to the examiner for search and substantive examination of all remaining issues.

6 Finally, I should like to thank the applicant for setting out their arguments so clearly and comprehensively, in particular in their final letter.

Subject matter

7 The claimed invention relates to a system and method for collaborative usage of a software application over a network, for example, the Internet. It is designed to provide assistance or support to a user unfamiliar with how the application works. In particular, it is for providing support to help resolve issues a customer may be having visiting a website, such support being provided by a customer service representative.

8 The prior art solutions to providing such support comprise screen sharing applications, in which the whole content of a screen is transmitted over the network, and co-browsing applications, in which the whole of a browser window is transmitted over the network. These prior art systems place quite a high burden on the network and on the individual computers involved, although co-browsing systems are clearly an improvement on screen sharing. There are also privacy concerns regarding the information that is shared, as confidential information may be present on the screen or browser. Whilst advanced co-browsing environments allow certain sensitive fields to be masked, this feature must either be initiated by a user or configured by an administrator. Another problem with these systems is that a person providing support is faced with a large amount of information from which they must identify what the issue is. These problems limit the speed with which customer service representatives can resolve enquiries and the number of customer enquiries they can handle at once.

9 The present system aims to provide an improvement to these prior art solutions and aims to both reduce the amount of data transferred between computers and to avoid the transfer of sensitive data.

10 This is achieved by automatically selecting a subset of the whole information to transfer, with a server handling the transfer of data between the computers.

11 In the context of a customer on a website, the system of the invention automatically selects a subset of the website elements which are of interest and presents this subset to the customer service representative. The customer service representative can then subsequently select one or more fields corresponding to elements from this subset for highlighting on the customer's computer, these fields being selected based on the particular problem the customer is having as communicated through an accompanying chat window. The customer experience is similar to a co-browsing experience with relevant fields being highlighted as the customer service representative communicates with the customer through the chat window. However, the customer service representative only sees the subset of fields which the system has initially selected. This embodiment is illustrated in figure 1A of the application (reproduced below) which shows an example of a website (106) as displayed in the customer's browser and the customer service representative's collaboration window (108) including the selected subset of fields (user interface (UI) elements - 114) and the chat message transcript (110). The figure shows the customer service representative choosing the "Phone number" (116a) and "Error message" (116b) for highlighting in the customer's browser (138, 140).

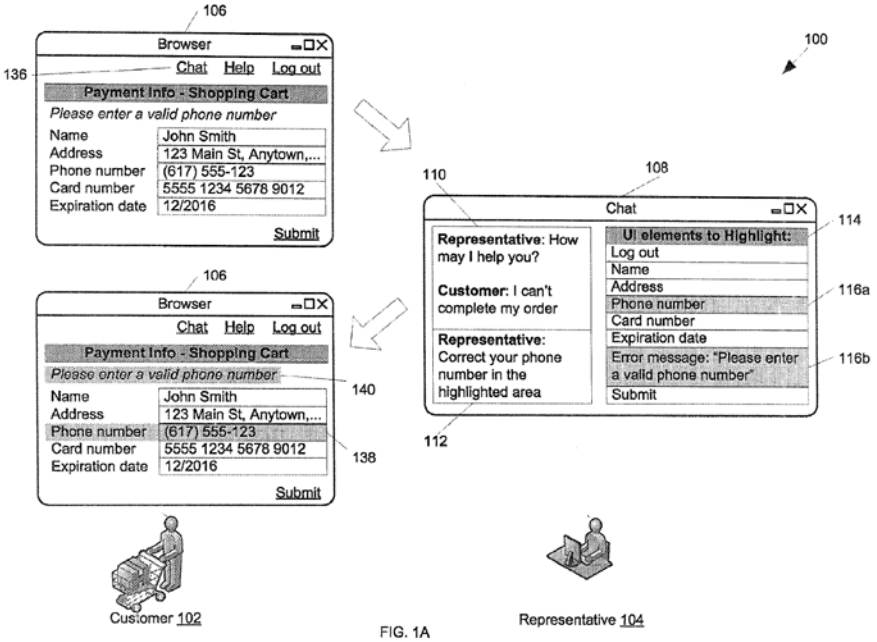

FIG. 1A

12 Figure 2 (reproduced below) illustrates an example message flow between the customer's computer, the server and the customer service representative's computer. This figure appears self-explanatory. It will be noted that in this example the customer computer selects the subset of fields ("Identify UI elements for selection 208"), but the invention also contemplates this selection being carried out by the server (figure 4 – step 410).

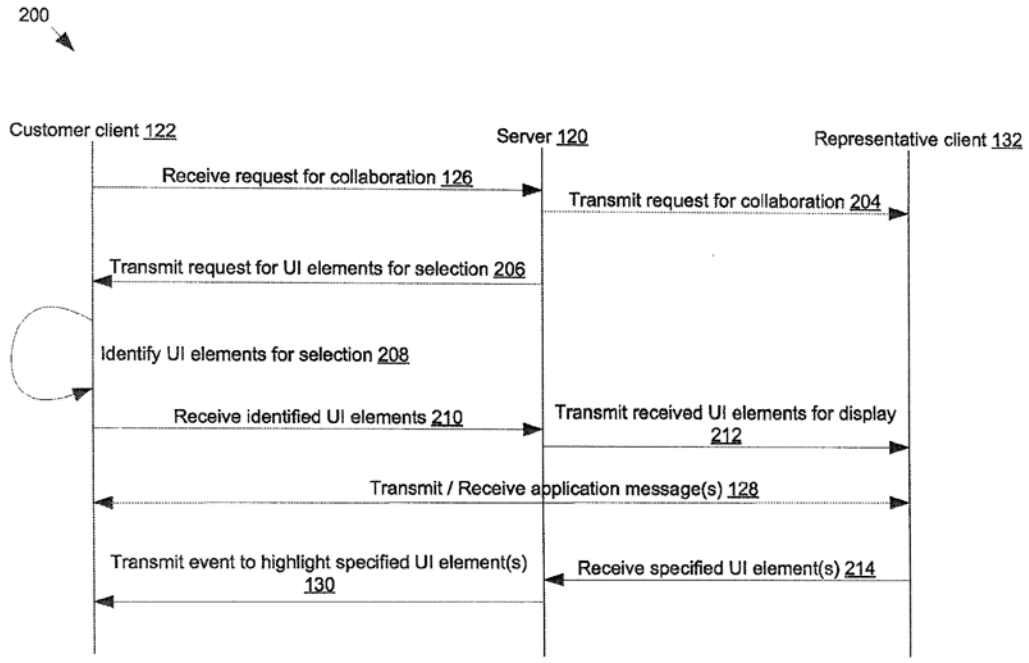

FIG. 2

13 Three independent claims exist, claims 1, 8 and 15. Claims 1 and 8 are system claims, distinguished from each other only by whether it is the customer computer or

the server which performs the selection of the subset of user interface elements. Claim 1 requires that the selection is carried out by the customer (first) computer, whereas claim 8 requires it is performed by the server. Claim 15 is a method claim which corresponds to the system of claim 8.

The law

14 The examiner raised an objection under Section 1(2) of the Act that the invention is not patentable because it relates to one or more categories of excluded matter. The relevant provisions of this section of the Act are shown below:

> *1(2) 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…*
>
> *(c) a scheme, rule, or method for performing a mental act, playing a game or doing business, or a program for a computer; …*
>
> *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.*

15 The assessment of patentability under Section 1(2) is governed by the judgment of the Court of Appeal in *Aerotel*[1], as further interpreted by the Court of Appeal in *Symbian*[2]. In *Aerotel* the court reviewed the case law on the interpretation of Section 1(2) and set out a four-step test to decide whether a claimed invention is patentable:

> *(1) Properly construe the claim;*
>
> *(2) identify the actual contribution;*
>
> *(3) ask whether it falls solely within the excluded subject matter;*
>
> *(4) check whether the actual or alleged contribution is actually technical in nature.*

16 The Court of Appeal in *Symbian* made it clear that the four-step test in *Aerotel* was not intended to be a new departure in domestic law; it was confirmed that the test is consistent with the previous requirement set out in case law that the invention must provide a "technical contribution". Paragraph 46 of *Aerotel* states that applying the fourth step of the test may not be necessary because the third step should have covered the question of whether the contribution is technical in nature. It was further confirmed in *Symbian* that the question of whether the invention makes a technical contribution can take place at step 3 or 4.

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[1] *Aerotel Ltd v Telco Holdings Ltd & Ors Rev 1* [2007] RPC 7
[2] *Symbian Ltd v Comptroller General of Patents* [3009] RPC 1

17 Lewison J (as he then was) in *AT&T/CVON*[3] set out five signposts that he considered to be helpful when considering whether a computer program makes a technical contribution. In *HTC/Apple*[4] the signposts were reformulated slightly in light of the decision in *Gemstar*[5]. 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.*

Application of the Aerotel approach

Step (1): Properly construe the claim

18 The latest claims are the amended claims filed on 17 December 2020. Amended claim 1 reads as follows:

> *A system for collaborative application usage, the system comprising:*
>
> *a server digital data processor, wherein the server digital data processor is configured to:*
>
> *receive over a network, from a first digital data processor, a subset of a collection of user interface element associated with a user interface displayed on the first digital data processor, wherein the subset of the collection of user interface elements is selected by the first digital data processor based on at least one of: one or more markup attributes corresponding to the user interface elements, a content position of the user interface elements, a user interface definition for the user interface, historical data about the user interface running on the first digital data processor, and historical data about selection of user interface elements on a second digital data processor, wherein each user interface element has a unique identifier that is assigned by the system;*
>
> *transmit over the network, to a second digital data processor, the subset of the collection of user interface elements for selection on the second digital data processor;*

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[3] *AT&T Knowledge Ventures/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat)
[4] *HTC v Apple* [2013] EWCA Civ 451
[5] *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10

receive over the network, from the second digital data processor, one or more user interface elements selected from among the subset of the collection of user interface elements; and

transmit over the network, to the first digital data processor, an event containing the unique identifiers of the user interface elements selected from among the subset,

the first digital data processor is configured to:

receive the event over the network from the server digital data processor;

use the unique identifiers contained in the event to look up the selected user interface elements in the user interface definition;

update the user interface definition to cause at least one of the selected user interface elements to be visibly identified upon display.

19 The claim relates to a system for selectively sharing user interface (UI) elements, wherein a server receives a subset of a collection of user interface elements, each of which has a unique identifier, from a first computer, the subset being selected automatically by the first computer. The server transmits the subset of the user interface elements to a second computer for a user of the second computer to make a subsequent selection, and consequently receives those selected user interface elements from the second computer. The server then transmits the unique identifiers of the selected elements to the first computer, where they are used to update the user interface to visibly identify the selected elements. A number of different ways of selecting the initial subset are specified.

20 Claim 8 differs only in that it is the server which selects the initial subset rather than the first computer. This requires that all the user interface elements in a collection are sent from the first computer to the server, and then only the subset is sent from the server to the second computer. Claim 15 is a method claim equivalent to the system of claim 8. As far I can determine[6], the claims relate to the same inventive concept, including the second computer receiving a subset of the user interface elements in a collection – whether the subset is identified by the first computer or the server. The following analysis will therefore be discussed with regard to claim 1 and apply by extension to claims 8 and 15.

21 There are not considered to be any difficulties in the construction of the claims. Neither the examiner nor the applicant have identified any issues.

Step (2): Identify the actual or alleged contribution

22 The applicant has not explicitly identified the contribution, nor have they made any comments on the contribution identified by the examiner. The only reference to the

[6] A formal assessment of novelty and inventive step has not been made, and so no assessment has been made of unity in light of prior art

contribution on behalf of the applicant is the reference on page 2 of their letter dated 17 December 2017 stating:

> *The invention pertains to systems and methods for collaborative application usage that overcome the shortcomings of screen sharing and co-browsing.*

23 Guidance on how to identify the contribution is given in paragraph 43 of *Aerotel*, where the court accepted the proposition that identifying the contribution is:

> *"an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are. What has the inventor really added to human knowledge perhaps best sums up the exercise. The formulation involves looking at substance not form."*

24 The present invention works by the second computer receiving via a server only a subset of the user interface elements, rather than receiving all of the user interface elements. The subset of user interface elements is selected automatically either by the first computer or by the server. The claims and the description set out various parameters and/or conditions that may be used for carrying out this automatic selection, but I do not consider that how the automatic selection is carried out is pertinent to the contribution as it uses well known structural features and data such as markup attributes. Furthermore, the user interface on the first computer is caused to visibly identify selected elements by the server transmitting an "event" containing the unique identifiers of the selected elements. This mechanism is essential for the claimed invention to operate, but again is conventional and so not pertinent to the contribution.

25 The purported advantages of the present invention are discussed in paragraphs [0042] and [0043] of the description. As the system of the invention only sends a selected subset of user interface elements it is stated that fewer resources are used. In comparison to the prior art screen or browser sharing applications, the system of the invention "does not require as high levels of attention to select remote UI elements for highlighting" by the customer service representative and can therefore improve customer service performance metrics (paragraph [0042]). Additionally, the privacy concerns may be addressed as only field labels may be transmitted to the second computer, not the values entered in those fields (paragraph [0043]).

26 The hardware required to implement the invention – two computers connected via a network to a server – is entirely conventional, as is acknowledged in paragraphs [0037], [0046] and [0047] of the description. Moreover, there is no new arrangement of hardware. The communication protocol used by the system of the invention is also conventional, as is acknowledged in paragraph [0069].

27 The contribution is therefore considered to be:

> *In the collaborative usage of an application, the sharing of an automatically selected subset, from a collection of user interface elements associated with a user interface of the application running on a first computer, with a second computer, and updating the user interface of the first computer to visibly identify those user interface elements selected from the subset at the second computer.*

28 This contribution is in broad agreement with that identified by the examiner, save that I have made it explicit that it includes the automatic selection of a subset of user interface elements.

29 It is immaterial for the purpose of the identified contribution whether the automatic selection of a subset of user interface elements is made at the first computer or at the server. This same contribution therefore applies to all three independent claims.

Steps (3) & (4): Does the contribution fall solely within the excluded subject matter; check if the contribution is actually technical.

30 The third and fourth steps of the *Aerotel* test involve considering whether the contribution falls solely within excluded categories, and then checking whether the contribution is technical in nature. It is appropriate to consider these two steps together because whether the contribution is technical in nature will have a direct impact on whether it falls solely within excluded matter.

31 The contribution is clearly implemented through the use of a computer program. However, the fact that the invention is effected in software does not mean that it should immediately be excluded as a program for a computer as such. In *Symbian*, the Court of Appeal stated that a computer program may not be excluded if it makes a technical contribution.

32 In order to determine if the contribution is technical in nature, I will consider each of the *AT&T* signposts in turn. The applicant and the examiner have each set out extensive arguments following the signposts and with reference to precedent case law. I will not repeat them all here, but I have taken account of them in undertaking my own reasoning.

First signpost – whether the claimed technical effect has a technical effect on a process which is carried on outside the computer

33 The invention consists entirely of software running on a conventional computing hardware arrangement. The contribution specifically relates to a computer program for sharing a subset of user interface elements and for visibly identifying a selection of them, so the only effect appears to be within the computing system.

34 The applicant argues that the invention makes it easier for the computer end user who needs assistance to get that assistance, and that it makes it easier for the end user who is providing that assistance to provide it, and that both of these processes are outside the computer and so the first signpost is met by the invention. However, such effects as these are not technical. They relate to administrative acts and as such lie in a similarly excluded field – a method for doing business.

35 The applicant also refers to paragraph 49 of the judgment in *HTC v Apple* which states:

> *An invention which solves a technical problem within the computer will have a relevant technical effect in that it will make the computer, as a computer, an improved device, for example by increasing its speed. An invention which solves a technical problem outside the computer will also have a relevant*

technical effect, for example by controlling an improved technical process. In either case it will not be excluded as relating to a computer program as such.

36 However, as stated above, there is no solution to a *technical problem* outside the computer, nor does it solve a technical problem within the computer. The computer is not an improved device, it is simply running a streamlined application.

37 The applicant has drawn further comparisons with the judgment of *HTC v Apple*. Specifically, the applicant argues that the invention parallels the '948 patent considered in *HTC v Apple*, in that both inventions are implemented in computer software, both improve the user interface, and both make the computer easier to use, arguing that the reasoning cannot be limited to only software for assessing and processing multi-touch events (i.e. the invention of the '948 patent).

38 Firstly, as is made clear in paragraph 45 of *HTC v Apple*, each case must be determined on its own facts bearing in mind the guidance given by the courts. The '948 patent related to a way of assessing and processing multi-touch events in multi-touch devices, whereas the present invention relates to selectively sharing and visibly identifying user interface elements. Clearly the facts of the two cases are entirely different and drawing any parallels between them is of limited use.

39 Secondly, the contribution of the '948 patent was found to be technical on the basis that it concerned the basic internal operation of the device. It caused the device to operate in a new and improved way which applied irrespective of any particular application, and it provided a new and improved interface which was, in a real practical sense, an improved device (paragraph 57). In particular, the judge found that it was an improved device not because it ran different application programs but because it was easier, as a device, for programmers to use (paragraph 58). The same does not apply to the instant invention which, whilst it may apply across a number of different application programs each having a user interface, is nevertheless specific to those (types of) applications and not to the computer more generally. The present invention only relates to specific applications, and not to the computer per se, and it does not make the device easier to program at all.

40 The applicant also argues that the software that executes the invention on each of the computers necessarily has effect outside that computer because it communicates over a network and reduces the load on the network. The decision in *Lantana*[7] is said not to detract from this argument.

41 *Lantana* related to the use of email to transfer data between computers connected via the Internet. It was refused by the Hearing Officer as being a program for a computer. This decision was upheld on appeal on the grounds that neither connecting computers via the Internet nor using email to transfer data made a technical contribution.

42 Of course, there is no blanket rule that just because a network is involved that does not mean the invention should be excluded, it depends on whether or not the contribution is technical. However, I do not see any distinction between this case and *Lantana* that points to a technical contribution. As in *Lantana*, the present invention

[7] *Lantana Ltd v The Comptroller-General* [2013] EWHC 2673 (Pat)

consists entirely of software running on a conventional computing arrangement, including computers connected to the Internet.

43 The applicant also compares the present invention with the invention at issue in *Research in Motion v Inpro*[8] which was found not to be excluded. That case concerned transmitting data between a field computer of modest processing capacity and a proxy server to enable the field computer to browse the web. The applicant argues that because that invention was found to be technical then so must the present invention. Whilst there are some parallels, in that less data is sent across a network, potentially allowing a less powerful computer to be used, I do not consider the present contribution to be technical in the same way. In particular, information is not transmitted over the network more efficiently as was held to be the case in the judgment in *Research in Motion.* Rather, the amount of information transmitted is reduced simply by sending only a proportion of the whole.

44 The judgment in *Lenovo*[9] is also referred to. The contribution in that case was found to be technical because it related to a different physical interaction with the world outside the computer. In particular, the technical effect was the removal of a physical interaction. No physical interactions are rendered unnecessary as a consequence of the present invention. The customer service representative must still make a manual selection albeit from a reduced set of data, and the user (e.g. customer) must still take corrective action. The decision in *Lenovo* does not assist the applicant. In their letter of 17 December, the applicant also argues that "making it easier for end users to obtain and provide assistance" is a technical effect outside the computer. As I have noted above, this is an administrative act and is not technical.

Second signpost - 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

45 It is clear the effect of the invention does not operate at the level of the architecture of the computer in the sense of the operation of the processor, memory, or other internal components. The contribution specifically relates to a computer program for sharing user interface elements and for visibly identifying a selection of them. The effect is therefore clearly dependent on the data being processed.

46 The applicant argues that the invention works with any application on the first computer that has a user interface because the invention concerns itself with user interface elements, and therefore that the invention operates at the architectural level. However, whilst the UI elements may well relate to one of "any application that supports collaborative usage" (paragraph [0031]), that does not take the invention to the level of generality envisaged by this signpost, as the effect does not fundamentally change how the computing arrangement runs internally. An application, such as the instant claimed invention which runs on a server, which has an effect on any compatible application being run on one or more other computers is not the same as an architectural operation within a computer having an effect on any data processed or applications run on that computer.

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[8] *Research in Motion v Inpro* [2006] EWHC 70 (Pat)
[9] *Lenovo (Singapore) PTE Ltd v Comptroller General of Patents* [2020] EWHC 1706 (Pat)

Third signpost - whether the claimed technical effect results in the computer being made to operate in a new way

47 It is clear the computer itself does not operate in a new way. The computer is the same as it was before – it is only the program which is new. The third signpost is therefore not applicable here.

Fourth signpost - whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer

48 The applicant argues that the invention makes both the first and second computer better devices in the sense of allowing those computers to be used more effectively and efficiently, e.g. without excessively consuming resources or exposing private information.

49 However, in order to satisfy this signpost, the computer as a whole must run more efficiently and effectively, not just the individual program. In this case, the computer itself remains unchanged beyond merely running a new program – it still processes data in the same way as it did before. A better piece of software merely using less of the available hardware resources does not necessarily provide a technical contribution, as confirmed by Lewison J in paragraph 29 (viii) of *Autonomy Corporation Ltd*[10]*:*

> *"The mere fact that a computer program reduces the load on the processor or makes economical use of the computer's memory or makes more efficient use of the computer's resources does not amount to making a better computer, and thus does not take it outside the category of computer program as such."*

50 Although the user experience may be improved, this is not as a result of the computer being made more efficient or effective, but rather simply from running a better program.

Fifth signpost - whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented

51 The final signpost asks whether the claimed effect overcomes a problem as opposed to merely circumventing it.

52 The problem of screen-sharing applications requiring large amounts of computing resources, both on the network and at a customer's computer, has not been overcome. This problem has instead been circumvented by simply sending only a subset of user interface elements rather than sharing the entire screen or application interface. There is no change in the way the data itself is transmitted or processed, merely the volume of data. Hearing Officers have consistently found that the mere transmitting of less data fails this signpost and does not constitute a technical effect[11].

53 The problem of exposing private information when sharing the entire screen or application interface has also been circumvented by simply not sending the private

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[10] Autonomy Corporation Ltd v Comptroller General of Patents [2008] EWHC 146 (Pat)
[11] See, for example, BL O/150/11 (paragraph 33); BL O/244/13 (paragraph 39).

information to the second computer. Any enhanced privacy here does not arise from making the data itself or the communication thereof more secure.

54 The problem relating to the amount of attention required by customer service representatives has allegedly been alleviated as the invention “does not require as high levels of attention to select remote UI elements for highlighting” by the customer service representative and can therefore improve customer service performance metrics (paragraph [0042]). This is apparently achieved by presenting only selected UI elements to the customer service representative, rather than all UI elements as in the prior art screen/application sharing systems. This problem therefore seems to have been addressed through improving the user interface by reducing the amount of information presented, rather than in any technical improvement. The fact that what the user perceives and interacts with is “better” does not make the advance technical at all (see paragraph 50 of *Gemstar*). Furthermore, any problem relating to improving customer service metrics is merely administrative so cannot lend any technical character to its solution.

55 This signpost also does not point to a relevant technical effect.

56 Considering the contribution as a whole, it is considered to solely relate to a program for a computer as such. I have not been able to identify any effect of the contribution outside of the excluded fields. There is no contribution which provides technical character. When formulating the contribution above, I explained that I did not consider the automatic selection of the subset of elements, or the transmission of an event to cause their visible identification on the first computer, to be pertinent. I have carefully considered this point and I am satisfied that even if the contribution were determined more narrowly to include them, it would not change my assessment of technical effect.

57 I have considered all of the applicant’s arguments, but I cannot identify anything which I consider might provide the required technical effect.

58 In summary, in the absence of any technical nature to the contribution, I find that claims 1, 8 and 15 are directed to a program for a computer as such. They therefore do not comply with Section 1(2)(c) of the Act.

Conclusion

59 Since the invention fails to comply with Section 1(2)(c) of the Act, the application is refused under Section 18 of the Act.

Appeal

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

Ben Buchanan
Deputy Director, acting for the Comptroller