



PATENTS ACT 1977

PARTIES	Wei Xu
ISSUE	Whether patent application GB2108139.3 complies with Section 1(2) of the Patents Act 1977
HEARING OFFICER	Ben Buchanan

DECISION

Background

- 1 This decision relates to whether patent application GB2108139.3 complies with Section 1(2) of the Patents Act 1977 (“the Act”).
- 2 The application was published as GB2593385 A. It was lodged on 8 June 2021 claiming divisional status from application GB1521949.6 / GB2530940 A, which was the national phase of a PCT application published as WO2015/003476 (in Chinese). The earliest priority date of the application is 8 July 2013. Consequently, it is now some nine years since the earliest date, and that time period should be borne in mind when considering the invention.
- 3 In view of its divisional status a combined search and examination of the application was carried out. At that stage objections were raised, the principal objections being that the application was not inventive based on the disclosures of the Applicant’s prior application WO2012/142937 (EP2701112) and was not patentable as being nothing more than a program for a computer and/or a method for doing business. As such, it fell within the exclusion from patentability of Section 1(2)(c) of the Act.
- 4 Although the Applicant was able to amend to address the lack of inventive step objection to the satisfaction of the examiner, the lack of patentability objection was maintained through several rounds of amendment and re-examination.
- 5 The Applicant requested a hearing in their letter accompanying the amendments submitted on 1 April 2022.
- 6 Accordingly, the matter came before me for a hearing on 20 May 2022 at which the Applicant was represented by Philip Sanger of Grey Wolf IP (hereafter “the Attorney”). Skeleton arguments were helpfully provided by the Attorney in advance of the hearing.

- 7 The only matter which falls to be decided is whether or not the invention is excluded under Section 1(2) as being a method for doing business and/or a program for a computer.
- 8 The hearing on this application was held at the same time as that on co-pending application GB2108138.5, but they were heard consecutively and independently. Much of the argument was repeated and applied to both applications. For this reason, much of the discussion is common in both decisions, but I have left it in each so that they stand alone.

Subject matter

- 9 The application is titled "Method and device for communication using barcode image, and wearable component with embedded sensing core engine". This is a general reflection of the original application and does not specifically identify the present inventive concept. It relates to a system comprising one or more barcodes which are scanned by and/or displayed on one or more mobile terminals, the mobile terminals being in communication with one or more backend servers. The embodiments of the application disclose uses of such a system for enhancing or streamlining certain types of business transaction. In most cases the mobile terminal is a smart phone, but it could also be a smart watch or other smart wearable.
- 10 The application extends to 50 or so pages and discusses a number of discrete embodiments to the extent that the current application is one of nine divisionals based on the original parent application. I will necessarily focus on the embodiment most relevant to the present claims in order to describe and elucidate the invention.
- 11 The invention of this application is directed to a system comprising first and second mobile terminals, first and second barcode images and a first backend server. There are also several second backend servers which provide a service to a user upon request. The purpose of the invention is to trace a referral for a service from a first user to a second user. It is illustrated at least in part by the flow chart of Figure 9 of the application reproduced below. It should be noted that there is an error in Figure 9 of the application as published. In the very top row of captions, "Backend server 42" should be "Mobile terminal 2", and "Backend server 43" should be "Backend server 42". These are the correct captions as translated from the original published PCT document. The Applicant has requested amendment of this typographical error.
- 12 The invention is perhaps best understood by way of an example transaction which draws on themes and specifics from other examples, but which is not wholly described in relation to the Figure 9 embodiment.
- 13 The example transaction comprises the step of a backend server generating a two-dimensional barcode (sometimes known as a QR code) and that barcode being published. This corresponds to steps S800 and S805 of Figure 9. The first barcode preferably relates to purchase of a commodity (i.e. the provision of a purchasing service). This first barcode is scanned by a first mobile terminal (2) belonging to a first user, decoded and the decoded information is used to generate a second barcode (S810). In particular, the second barcode also includes personal information associated with the first user, as well as the original information regarding purchase of a commodity. This second barcode is then published (S815). This second barcode

is then scanned and decoded by a second mobile terminal (2') (S820, S825, S830) belonging to a second user, and the second user is directed to purchase the commodity linked to by the first barcode (S840, S845). As the second barcode contains the personal information of the first user, when the commodity is purchased a referral reward can be credited to that user (S850). Although described with relation to purchase of a commodity, the system would work with purchases of a wide variety of products or services.

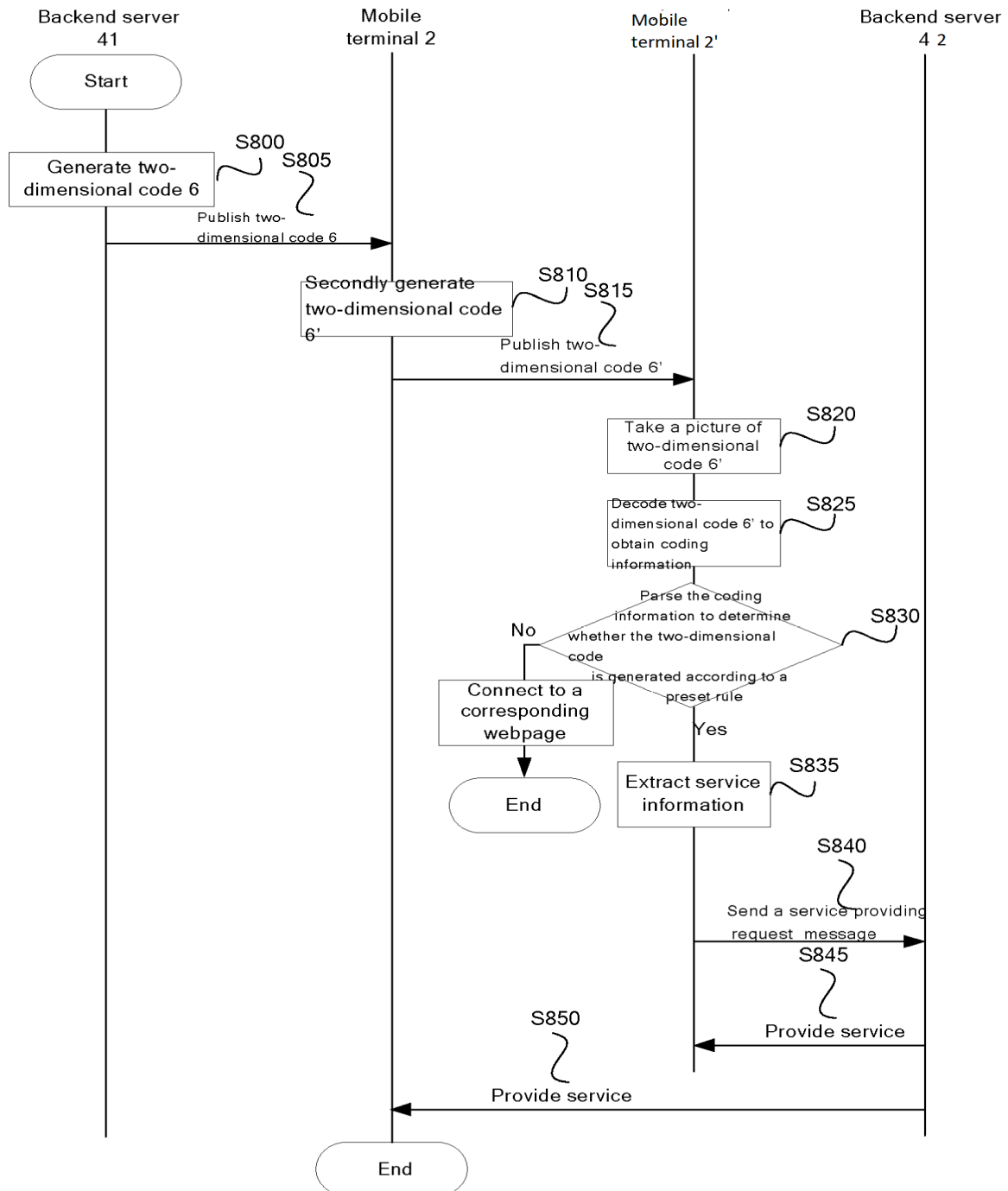


FIG. 9

- 14 The system has a first backend server (41) which essentially acts as a hub for handling the referral system among a number of different retailers. Each retailer has a designated second backend server (42) to handle the sale and provision of their services. Although only a single second backend server (42) is illustrated in Figure 9, the system is designed to work with many.
- 15 There is one particularly significant difference between the claimed invention and the flowchart of Figure 9. In Figure 9 the second mobile terminal is shown to parse the decoded barcode to extract the service information (S830, S835). However, in the claimed invention, the parsing and extracting of service information is carried out by the first backend server which then sends the service information back to the second mobile terminal. This link between the second mobile terminal and the first backend server is not illustrated in Figure 9. Carrying out the parsing at the first backend server is alleged to benefit efficiency and security as the instructions for parsing are restricted to the first backend server rather than being published to all mobile terminals.
- 16 This difference over Figure 9 is the basis of the Examiner's Added Matter objection set out in their Examination Report of 11 March 2022. In response to that report (following which the Examiner dropped their objection) and at the hearing the Attorney explained that the application (in Figures 3 & 4) clearly discloses backend server (41) having a parsing capability and relied upon this for support for this feature of the claim. I have carefully considered this and while that is true, it is also true that there is no explicit disclosure of the backend server parsing the second barcode in the embodiment depicted in Figure 9. Having noted this, I will make no finding in respect of added matter. I will accept the Attorney's explanation at face value and his construction of the claim on this point and I will consider when assessing the contribution whether an alternative interpretation affects the outcome.
- 17 Finally, the service information includes a designation regarding which of the second backend servers the second mobile terminal should communicate with to request the required service.

The law

- 18 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.

19 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.*

20 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.

21 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.

¹ *Aerotel Ltd v Telco Holdings Ltd & Ors Rev 1* [2007] RPC 7

² *Symbian Ltd v Comptroller General of Patents* [2009] RPC 1

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

Assumptions

- 22 I explained to the Attorney that having reviewed the file I considered that the search and assessment of novelty and inventive step appeared to be complete. Although previously other objections had been raised, for example to added subject matter as outlined above, these all appeared to have been overcome. I was thus proceeding on the basis that the claims were unitary and supported and would not reconsider these issues in hearing the argument and assessing the claims. We agreed at the hearing that only claim 1 would be considered and that the remaining claims would stand or fall with claim 1, on the basis that they shared the same inventive concept.
- 23 Subsequently, as discussed below, I have studied the relationship between the claims, their common essential features and so their clarity and unity more closely. I am content to adhere to the agreement made at the hearing, not least because the Attorney knows the intention of the drafting and was content for them all to be aligned with claim 1. However, I will say that were I to find that the invention behind the claims is not excluded, some considerable amendment would seem to be necessary to satisfactorily define the features currently claimed.

Application of the Aerotel approach

Step (1): Properly construe the claim

- 24 The latest claims are the amended claims filed on 1 April 2022.
- 25 Although there are a number of independent claims, the Attorney at the hearing expressed the view that they were all intended to have the same contribution as claim 1, and that if claim 1 was not patentable then neither were any of the remaining claims. If appropriate, the Attorney would amend the later independent claims so that they more clearly reflected the contribution of claim 1. Ultimately, the Attorney was content for the hearing to proceed based on a consideration of claim 1 only.
- 26 Claim 1 reads as follows:
1. A communication system, comprising:
 - a first backend server;
 - a plurality of second backend servers; and
 - at least a first mobile terminal and a second mobile terminal;wherein:
 - the first backend server, the plurality of second backend servers and the mobile terminals are in communication;
 - the first backend server is configured for:
 - generating corresponding first barcode images for services provided by the plurality of second backend servers based on a

coding rule uniformly followed by all second backend servers,
and

parsing coding information corresponding to barcode images
obtained by the at least two mobile terminals according to the
uniformly followed coding rule;

each of the second backend servers is configured for:

receiving service requests sent by the mobile terminals;

responding to the service requests; and,

providing services to the mobile terminals;

the first mobile terminal is configured for:

acquiring and decoding the first barcode image to obtain first
coding information,

generating a second barcode image based on the first coding
information and user information of the first mobile terminal; and,

releasing the second barcode image; and

the second mobile terminal is configured for:

acquiring the second barcode image; and,

decoding the second barcode image to obtain second coding
information;

wherein:

the first backend server is configured for:

parsing the first coding information to obtain first service
information related to a service provided by a designated
second backend server; and

parsing the second coding information to obtain the first service
information and the user information; and

the second mobile terminal is configured to:

obtain, from the first backend server, the first service
information; and,

send a service request to the designated second backend
server; and,

receive the service provided by the designated second backend server.

- 27 There are a number of steps which appear to be implicit and do not seem to correlate clearly between the specification, the drawings discussed, and the claim. These frustrate ready construction of the claim. For example, the first mobile terminal acquires the first barcode and generates the second one, but nowhere is it made clear that the first mobile terminal sends the first coding information to the first (or a second) backend server and requests the relevant service. Instead, the backend server is merely defined in the claim as “configured for” obtaining the first service information (but not from where). It then provides the service information to the second mobile terminal. In the claim, only the second mobile terminal explicitly requests and receives the service. However, in Figure 9 at step 850 the first mobile terminal receives the service, seemingly in response to the service request from the second mobile terminal. Claims 2 & 19 also suggests this may be the case, although the reference in each is optional which rather confounds the scope of these claims too. Claim 9 defines an alternative scenario where the first mobile terminal requests and receives the service directly.
- 28 The scope of claim 1 then, clearly does not define how (or even whether) the service is requested for and provided to the first mobile terminal. In contrast, independent claim 17 explicitly includes the feature of the first mobile terminal directly requesting and receiving the service from the designated second backend server.
- 29 Claim 11 does not essentially require a second mobile terminal within the claimed system, nor any interaction with it. On the face of it, the scope of this claim then would seem to be broader than claim 1. For the purposes of this decision, and noting the Attorney’s assurances above, I will not consider this claim much further but I would note that the feature of a mobile terminal generating a barcode based on both coding (i.e. service) and user information is defined in claims 1 and 11.
- 30 Finally, a number of the claims refer to the second mobile terminal optionally generating a hyperlink instead of a second barcode. I have not been distracted by this and for the purposes of this decision, consider that the form of the “code” (whether a barcode or a hyperlink) is immaterial. In either case, coding information is thereby obtained.
- 31 The Attorney agrees with the construction of the claim put forward by the examiner as follows:

An arrangement of first backend server BE1, secondary servers BE2, first mobile terminal MT1, second mobile terminal MT2.

BE1 is configured to generate a first barcode corresponding to services on BE2. BE1 is operable to parse (understand) coding information corresponding to barcodes or hyperlinks from MT1, MT2.

BE2 is configured to receive and respond to requests from mobile terminals.

MT1 acquires and decodes the first barcode image to obtain first coding information; MT1 generates a second barcode image or hyper link (claim 19) based on first coding information and user information.

MT2 acquires second barcode image or hyperlink and generates second coding information.

This coding information is then sent from MT2 to BE1.

BE1 is configured to parse/understand the first coding information to obtain first service information for BE2; and parse/understand the second coding information to obtain first service information and user information.

MT2 obtains the first service information, requests service from BE2 and receives service.

- 32 Because the language of the description and the Figures are not definitive in deciphering the above and some other respects, I find them limited in assisting my construction of claim 1. In summary I am inclined to accept the Attorney's preference for and construction of claim 1, with the caveat that I have not assessed whether it is supported and enabled by the description. I am confident this will not affect my assessment under S1(2), as my consideration of the contribution will keep in mind that the contribution of all claims is intended to be the same, and aligned with claim 1. I will contemplate the *definition* provided by the claims and the *enablement* of the invention when put into effect, from the description, when identifying the contribution.

Step (2): Identify the alleged contribution

- 33 The process of identifying the contribution was summarised in paragraph 43 of *Aerotel/Macrossan* as follows:

... it is an exercise in judgement 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 – which is surely what the legislator intended.

- 34 In assessing the contribution, it is helpful to consider the state of the art. In this case the closest prior art is the applicant's own prior application WO 2012/142937 (D1) referred to above as it formed the basis of an earlier inventive step objection. This document is in Chinese but there is an equivalent European regional phase application published in English as EP2701112 A1 (D1-EP). Although D1-EP was published after the priority date of the current application, it corresponds with the content of D1.

- 35 The Attorney referred to figure 10 of D1-EP (reproduced below) which illustrates a transaction system making use of a single barcode and a single mobile terminal as well as backend server and a payment server. The single mobile terminal decodes the barcode and parses it to extract commodity information (S920, S925, S930). The mobile terminal then sends a purchase request to the backend server (S935) which creates the order (S940) and requests payment from the payment server (S945).

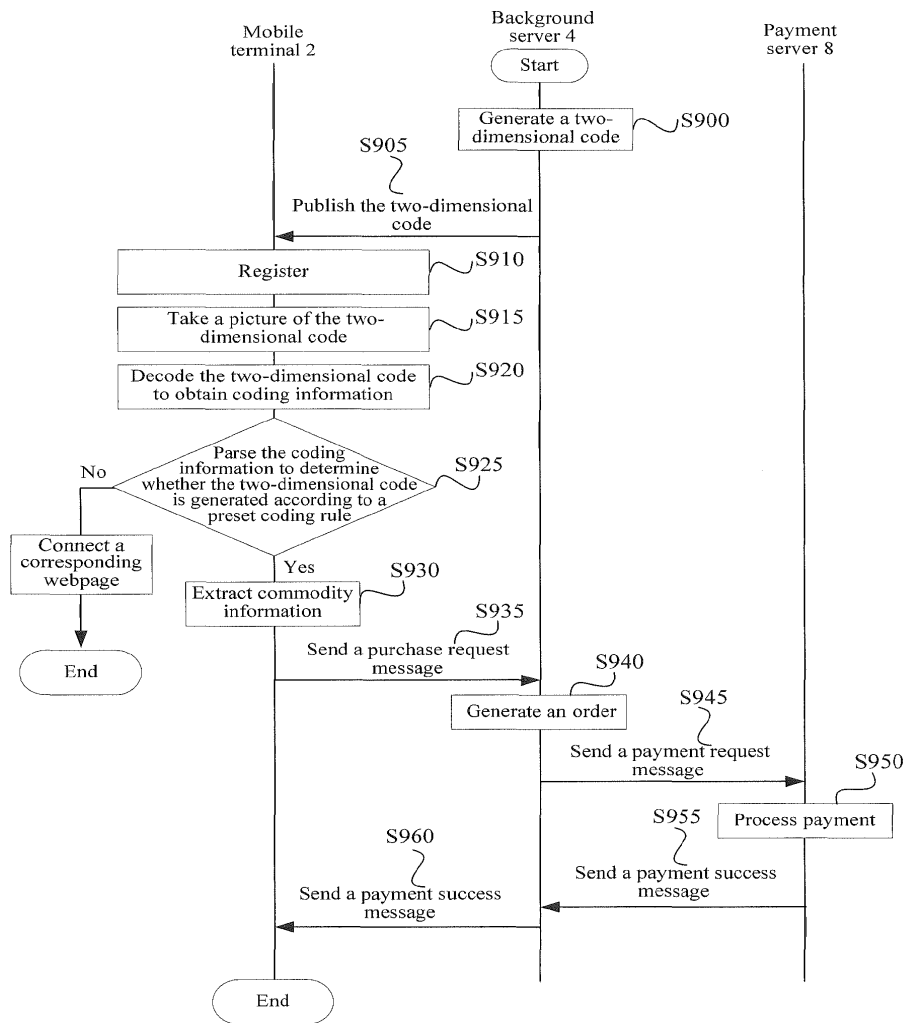


FIG. 10

- 36 As pointed out by the Attorney, the difference between this prior art and the current claimed invention is the presence of multiple second backend servers, multiple mobile terminals, and the presence of the referral tracing functionality through generation of a second barcode (or hyperlink). Specifically, the first mobile terminal combines first coding information (relating to the commodity/service offered through one of the second backend servers) from the first barcode, with user (referral) information to create a second barcode which is published. Then the second mobile terminal scans the second barcode and sends the decoded barcode to the first backend server. The first backend server parses the decoded information and sends the service information back to the second mobile terminal directing it to the appropriate second backend server to fulfil the service request. The first backend server also identifies the referrer.
- 37 Assessing the contribution involves more than just identifying the differences⁶ and it is also important to consider how the invention works and its benefits. The Attorney highlighted three advantages during the hearing:

⁶ Manual of Patent Practice at section 1.21

- (i) the parsing of the coding information (including first user information) being carried out on the first backend server is more secure than if it were carried out on a (second) mobile terminal;
- (ii) the parsing of the coding information being carried out on the first backend server means that the mobile terminal is subject to lower processor capability demand;
- (iii) the second barcode including service and first user information enables referral tracing.

38 In other words, what is really important, is the two-component second barcode and the parsing of the second coding information on the first backend server.

39 The Attorney generally agrees with Examiner's assessment of the contribution, subject to clarification of some terms. They have identified the contribution (including clarifications) as follows:

An arrangement of first backend server, second backend servers, and first and second mobile terminals, wherein: the first backend server generates a barcode corresponding to services at the second backend servers; this is captured by the first terminal which then generates a second barcode of hyperlink which is then received by a second terminal; this is decoded and used by the first backend server to request service to the second terminal from the second backend servers whilst identifying the user of the first terminal at the first backend server.

40 This is a reasonable starting point, but I feel it omits several important features which give rise to alleged advantages, and inadvertently generalises some others, namely:

- (i) while the first backend server can generate barcodes corresponding to multiple services, each barcode corresponds to a designated second backend server;
- (ii) one barcode at a time is scanned by the first mobile terminal;
- (iii) the second barcode includes first user information;
- (iv) the second coding information is parsed by the first backend server;
- (v) the second mobile terminal requests the service directly from the second backend server;
- (vi) the first mobile terminal may receive the service in response to the second mobile terminal requesting it if the first mobile terminal does not request it directly.

41 Consequently, my formulation is as follows:

A first mobile terminal scans a barcode from a first backend server, corresponding to a service provided by a second backend server; the first mobile terminal generates a second barcode (or hyperlink) including the first

service information from the first barcode and also first user information; when the second barcode is scanned by a second mobile terminal, the second mobile terminal decodes the barcode and sends the first service information and first user information to the first backend server; the first backend server parses this information and provides the first service information to the second mobile terminal; when the second mobile terminal requests the service, the service is provided to the second mobile terminal and optionally, unless requested directly by the first terminal, also the first mobile terminal; referral by a first user of a service to a second user can thereby be traced.

- 42 This formulation does not satisfactorily reconcile the issue of claim 11 not explicitly requiring the second mobile terminal. I can only conclude that claim 11 inadvertently does not reference the *further* (i.e. second) mobile terminal sending the coding information back to the first backend server. In other words, it inadvertently defines the (first) mobile terminal as scanning and decoding a first bar code, generating a second barcode and sending the coding information from the first barcode to the first backend server, then requesting and receiving a service. I shall proceed with the contribution above and if the application is allowed to proceed, the wording of claim 11 will need to be resolved to align with claim 1.

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

- 43 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.
- 44 The contribution is clearly implemented through the use of one or more computer programs. However, the fact that the invention is effected in software does not mean that it should immediately be excluded as a computer program as such. In *Symbian*, the Court of Appeal stated that a computer program may not be excluded if it makes a technical contribution.
- 45 The Attorney argued in the first instance that the system operates in a new way, that although the individual components of the system (the backend servers and mobile terminals) are conventional in isolation, the system as a whole is not, and that the prior art does not disclose components interacting in this way. The Attorney states that the claim is accordingly directed to a novel computing system and not to a computer program or a business method as such.
- 46 Let us consider this argument. The suggestion appears to be that because the invention is novel and because it comprises a technical system, then it is not a computer program as such. However, it is not enough that the system is novel if that novelty arises solely due to the way it operates. If the new way of operating is embodied in a computer program then, absent anything technical in the contribution, the exclusion will apply. I consider that the physical arrangement of the hardware is conventional, even if the specific layout is novel, as the devices defined in the claim join and interact with the wireless network in a conventional manner. In other words,

the network technology interconnecting known devices is not new. In order to decide that the invention is patentable a technical contribution must be identified.

- 47 For example, prior art D1 shows a mobile terminal communicating with a backend server which in turn communicates with a payment server. It would be entirely conventional for a second mobile terminal to simultaneously connect with the backend server. The difference provided by the present invention lies solely in how the mobile terminals interact with the (first) backend server under the control of a computer program and in the provision of second backend servers from which services (including payment transactions) may be requested. It is significant that the present invention does not specify that the mobile terminals communicate with each other, in the sense that there is no direct network connection between them. Rather, the first mobile terminal generates a code, including user information, which is scanned by the second mobile terminal. The second mobile terminal decodes the second barcode, and the decoded information is parsed by the first backend server. This is allegedly more secure because the second mobile terminal does not determine (by parsing) the decoded first user information directly. The presence of further backend servers is considered conventional.
- 48 In order to determine if the contribution is technical in nature, I will consider the *AT&T* signposts as argued by the Attorney at the hearing.
- 49 The Attorney has presented no argument in the case of signposts (ii), (iii), or (iv); the so-called *better computer* signposts. I agree that these signposts are not relevant in determining whether or not there is a technical contribution. I consider it self-evident that there is no change at the architectural level of the system or any of its components and the system is not made to *generally* operate in a new way⁷. Nor is it more efficient or effective *as a computer*. In other words, any so-called efficiency gain in performing the parsing at the backend server, instead of the second mobile terminal, is a consequence of selecting the device with the greater capability, not an improvement in any device itself. It is therefore not a technical effect. I note that the Examiner made a similar observation in their pre-hearing report of 29 April 2022 in the second paragraph of section 11 and referenced two office decisions to support this: *Q Software Global Ltd*⁸ and *JA Software Group Inc*⁹.
- 50 A similar line of reasoning applies to the alleged improved security achieved by parsing the coding information at the backend server. The backend server is under the control of (and maybe be physically located with) the system provider, and is therefore less susceptible to tampering or malicious activity than a mobile terminal. It is an administrative decision to perform the parsing at the server and as such is not technical per se. For the reasoning in this and the preceding paragraph, and with reference to the difference between claim 1 and Figure 9, it does not make a difference to my assessment whether parsing being performed at the backend server as claimed is fairly based or not. Even if the parsing were carried out by the second mobile terminal as shown in Figure 9, there would be no technical effect. Whether

⁷ As Lewison J effectively noted in paragraph 31 of *AT&T* this signpost “points towards some generally applicable method of operating a computer rather than a way of handling particular types of information”.

⁸ *Q Software Global Ltd's Application* BL O/120/11

⁹ *JA Software Group Inc's Application* BL O386/12

the specific physical arrangement of hardware required to enable the invention to work as claimed can provide the technical effect is the focus of the following discussion.

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

51 In paragraphs 30-31 of the High Court's decision in *Lantana*¹⁰ (upheld on appeal) the judge set out that, for the purposes of this signpost, *the computer* is the system in which the invention operates as a whole and not each individual machine. Accordingly, *the computer* is the arrangement of mobile terminals and servers connected in what is considered to be a conventional network topology. A technical effect outside this computer may indicate that the invention does not fall within the computer program exclusion.

52 However, on the face of it, any benefits of the invention outside the computer lie in a similarly excluded field, i.e. business (tracing a referral) or administration (selection of hardware with a specific location characteristic or capability). As such they are not *technical effects*.

53 The Attorney in his argument referred firstly to the following passage of the decision of the Court of Appeal in *Lantana*:

*“The first signpost did not help because the technical effect of communication was achieved within “the computing arrangement” consisting of the two computers and the network by which they communicated. **The mode that the computers used to communicate with each other was entirely conventional and could not be part of a technical contribution**”*

54 The emphasis in the final sentence is the Attorney's. He argues that *Lantana* was refused because it was concerned with known computers connected by a known network operating in a known manner. In contrast he claims that the arrangement of the components of the present invention and the manner in which they interact is new. The invention in *Lantana* related to a method for transferring files between two computers by means of email which avoided the need for the computers to both be on at the same time. A local computer was provided with a list of files on a remote computer and upon selection of one of those files an email was sent to the remote computer requesting that file. When the remote computer received that email (at a time it was on), then it would email the requested file back to the local computer.

55 The Attorney's argument seems to mischaracterise the decision in *Lantana*. In particular, one of the arguments raised by *Lantana* on appeal was that the invention must provide a technical contribution since the judge had determined that it was novel and inventive. The Court of Appeal stated:

“In substance the claim relates to computer software running on conventional computers connected by a conventional network. The task the software performs moves data from one computer to another using a conventional technique for carrying out the task, i.e. email. The context in which this arises is

¹⁰ *Lantana v Comptroller-General of Patents* [2013] EWHC 2673 (Pat)

that accessing remote computers via continuous connections can be problematic but this is not a technical solution to those problems, it avoids them, but does do using a conventional technique. The claim has been found to be novel and inventive by the examiner and in that sense it makes a contribution of some kind to the art, but the applicant has been unable to identify anything which this claim can fairly be said to contribute which has a technical character. In my judgement this claim is to unpatentable subject matter and is contrary to s.1(2) of the Act.

56 There was clearly something novel in the interaction between the computers in Lantana given that it was found to be novel and inventive. Although the use of email is specifically identified as a conventional technique, the same, it seems, must apply to conventional network communication between the components of the present invention. I agree with the Attorney that there is a new interaction between the components, but there was also a new interaction between the computers of *Lantana*. The decisive point in Lantana is that there was no technical effect in that interaction - no *technical* contribution. The same is true here.

57 Although the Attorney refers to the components interacting in a new and technical manner, this seems to be based on the “technical” nature of the components as hardware devices. He has not pointed to any changes to the technical specification, capabilities or hence any technical contribution. For this reason, I disagree that the *manner* of interaction is new; it is not, it is technically conventional, even if the data communicated and the program controlling it is novel and defines the invention.

58 The Attorney makes a similar case in respect of the original Court of Appeal decision in *Aerotel* and refers to the following passage from the summary of the decision:

H27 (15) When considering the method claim, claim 1, the judge had misunderstood Aerotel’s evidence and thereby misassessed the contribution of the inventor. The inventor was not saying “use existing apparatus for my new method”, instead he was saying “create a new overall combination of apparatus using known types of apparatus and use that combination for my method”. The appeal would be allowed. ([56],[57],[77]).

59 He claims that the current invention is a similar new arrangement of known components to form a novel system. As acknowledged above, while the specific layout may be new, that alone does not indicate a technical contribution. I consider that the components are interconnected in a network arrangement which uses conventional connections, communications and protocols. It is a conventional arrangement. Novelty is conferred by the software running on the different components which provides for new forms of procedural interaction between the components but does not indicate a technical effect.

60 The Attorney has also referred to a couple of recent Office decisions, *Lookout*¹¹ and *Google*¹². From *Lookout*, he referred to the following statement made by the Hearing Officer (at paragraph 36):

¹¹ *Lookout Inc.’s Application* BL O/701/21

¹² *Google LLC’s Application* BL O/611/19

“It is important to define what is meant by “the computer” in respect of this signpost. As the examiner points out in their report of 17 June, in Lantana, the Court directed that the “computer” may be a system of computers; a network computer. In so far as the user client computer, the network resource server and the authorisation server are concerned, I agree. Those devices are connected together to control and enable access to the requested resource. The authorising device is separate; deliberately independent even. I am not inclined to consider it as unitary with the “network computer”. The process of interaction between the computer and the authorising device would therefore be outside the computer and the resultant effect is one of verification and authorisation to access the network resource. I regard access-control / security as a technical field of endeavour and on that basis would regard the effect of the contribution to mean that the first signpost is met.”

- 61 The Attorney based his argument on the premise that *“The Hearing Officer, correctly, identified the field of access control / security as a technical field because it occurs outside the computer”*. This premise is however subtly incorrect. *Lookout’s* application was allowed because the access control feature was *both* outside the computer *and* also technical in character (in relating to access control / security). For the avoidance of doubt, I consider the alleged contribution to security in parsing the coding information at the first backend server to be both *within* the computer network and to *arise from the decision* to use the standard capability of the server over a mobile terminal. That capability is itself unchanged and the decision is one based on comparison of standard capability, not an improvement in capability or therefore any technical effect. It is akin to taking the key from under the doormat and hiding it in a better place.
- 62 The Attorney made particular reference to the scanning of barcodes being outside the computer. Although these activities may be considered to lie beyond the computer system, I do not consider them to be inherently technical in nature, and as above they are not technical simply because they occur outside the computer. There is no suggestion that they are improved per se, for example offering improved means of verifying or authenticating a scanned code. Rather, they are characterised by the encoded data. The same applies to the generation of the second barcode (or hyperlink). These activities are considered to relate to tracing a referral; a business endeavour. As such they are not technical in character because they relate to another excluded field, a method for doing business.
- 63 The Attorney also appears to have been trying to draw an analogy between the independent mobile device of *Lookout* and the mobile terminals of the instant application and suggested that they are not part of the computer such that any interaction between them is outside the computer. I do not agree with this analogy. I consider that it is the specific manner of the interaction between the mobile device and the computer of *Lookout* which gives the mobile device its independent quality such that it was found to be outside the computer. The configuration of the system in *Lookout* was such that the device in question was *specifically employed to authorise access* and was deliberately independent of the authorised user, such that access control was improved. The independence of the device gave rise to the effect outside the computer, and the contribution to access control lent technical character to the

effect. I do not believe *Lookout* was intending to suggest that mobile terminals always fell outside the computer for the purpose of this signpost.

- 64 The Attorney referred to *Lenovo*¹³ as an example of a judgment where an invention in the field of commerce was found not to be excluded. However, in that case it was the removal of a physical action (the necessity to manually select on a display the card that was to be used for payment) that was considered to be a technical effect. The Attorney has not identified a similar removal of a physical action in the current application. I cannot see any similar technical effect and *Lenovo* does not assist the Applicant.
- 65 In relation to *Google* the Attorney stated “*Clearly, the arrangement of the computing devices and their respective functions has a bearing on the contribution. To put it another way, although the individual computing devices are known, if their arrangement and functions contributes to the technical effect of the invention then this must be recognised.*” I do not think there is any doubt that this is an accurate reflection of the law. However, the Attorney has not convinced me that it applies to the current invention. As set out above, I have not been persuaded that the devices and their functions confer technicality upon the contribution. I cannot see any relevant technical effect in the contribution identified above and hence the bearing of the devices on that contribution is not influential.
- 66 In summary, whilst I consider that there are effects outside the computer, in particular, the provision and scanning of barcodes, these effects are not technical in nature. These effects are business or administrative improvements such that they lie in a similarly excluded field and cannot confer technicality on the invention.

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

- 67 This signpost is intended to consider whether there are any technical problems that have been overcome rather than circumvented. Overcoming a technical problem may indicate a technical effect¹⁴.
- 68 The Attorney has not specifically set out what the perceived problem is and has merely claimed that the invention involves a direct solution to the problem rather than a circumvention of it. He said that the invention solves the problem (of how to trace a referral) by adding components to a system and using barcodes to implement it. The technical nature arises from these two features. Although the invention is in the retail field, he alleged that the problems were nevertheless technical because they related to the interaction of computers in the form of servers and mobile terminals, and related problems are necessarily technical. I disagree with this argument and the warning of Birss J at paragraph 35 of *Halliburton*¹⁵ seems apt:

The business method cases can be tricky to analyse by just asking whether the invention has a technical effect or makes a technical contribution. The reason is that computer as self-evidently technical in nature. Thus when a business

¹³ *Lenovo (Singapore) PTE Ltd v Comptroller General of Patents* [2020] EWHC 1706 (Pat)

¹⁴ See EPO Technical Board of Appeal Decision T0258/03 (*Auction method/Hitachi*) on which signpost (v) is based.

¹⁵ *Halliburton Energy Services inc. v Comptroller General of Patents* [2011] EWHC 2508

method is implemented on a computer, the patentee has a rich vein of arguments to deploy in seeking to contend that his invention gives rise to a technical effect or makes a technical contribution... That means that some apparently technical effects do not always count. So a computer programmed to be a better computer is patentable (Symbian) but as Fox LJ pointed out in relation to the business method exclusion in Merrill Lynch, the fact that the method of doing business may be an improvement on previous methods is immaterial because the business method exclusion is generic.

- 69 The problems solved by this invention are business problems albeit the solution is implemented on a computer. The fact that it is implemented on a computer is not itself sufficient to provide a technical contribution.
- 70 The Attorney also argued that the present application could be distinguished from the decision in *Merrill Lynch*¹⁶ on the basis that *Merrill Lynch* was refused as being nothing more than the automation of an existing business concept. He made the point that the current invention is not simply automating an existing system, but it is improving upon pre-existing recommendation systems such as word of mouth. The invention is said to solve a problem encountered when the system is implemented.
- 71 In terms of the decision in *Merrill Lynch*, I do not see that the narrow basis on which that case was decided helps the applicant in this case. Whilst the current invention is not a simple automation of an existing concept, the system is nevertheless considered to be an improved method for doing business implemented on a computer. Similarly, the problems are considered to be business or administrative problems and not technical.
- 72 Since I can find no technical effect in the contribution of claim 1, the invention is considered to be nothing more than a method for doing business and a program for a computer as such. Accordingly, it falls within the exclusions of Section 1(2)(c) of the Act and is excluded from patentability.

Conclusion

- 73 Since the invention fails to comply with Section 1(2)(c) of the Act because it is a business method and a computer program as such, the application is refused under Section 18 of the Act.

Appeal

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

BUCHANAN

Deputy Director, acting for the Comptroller

¹⁶ *Merrill Lynch's Application* [1989] RPC 561