Intellectual Property Office

BL O/600/20

27 November 2020

PATENTS ACT 1977

APPLICANT	SITA Ypenburg B.V.
ISSUE	Whether patent application GB1800562.9 complies with section 1(2)(c)
HEARING OFFICER	Ben Buchanan

DECISION

Background

1 This decision relates to the issue of whether the application GB1800562.9, published as GB2568120A, meets the requirements of section 1(2)(c) of the Patents Act 1977 ("the Act").

2 Throughout the examination process, the Examiner has maintained that the application is excluded from patentability under section 1(2)(c) of the Act. Several rounds of correspondence have failed to provide a resolution. In their letter of 30th July 2020, the Applicant filed amendments and arguments in respect of the current claims and noted that the application may be passed to a Hearing Officer for a decision. I acknowledge the request in that letter that should the application be passed to a Hearing Officer, a search of the amended claims be made first. I have considered this, however I note that the Examiner's most recent letter of 6th October confirmed that the application will be forwarded for a decision and has not been searched. I will therefore consider the application as it stands and as the Examiner's letter states, if appropriate, I will refer the application to the Examiner for a search to be carried out. I will say that it is not unusual for a decision to be made in respect of compliance with section 1(2) without an application having been searched, but were I of the opinion that it was not possible in this case, I would refer the application to be searched before reaching my decision.

3 My analysis is based upon the claims filed on 30th July 2020 and the corresponding specification. For the avoidance of doubt no further arguments, amendments or auxiliary requests have been filed since the Examiner's letter of 6th October 2020.

4 The specification including the claims, the objections raised by the Examiner and the Applicant's arguments and observations can all be viewed at the IPO's online file inspection service:

https://www.ipo.gov.uk/p-ipsum.htm

5 For completeness, the claims under consideration and the Examiner's letter of 30th October are included as annexes below.

Subject matter

6 The claimed invention relates to a means to facilitate interaction between a user device, for example a traveller's mobile 'phone, and a self-service function at a terminal, for example a bag-drop facility at an airport. The invention works by determining that a user device having a ticket stored on it is in the vicinity of a self-service function terminal. The determination may be by detection of a Bluetooth™ signal, Near Field Communication or scanning a bar code for example. Once detected in the vicinity, the user device establishes a connection session with a cloud service which acts as a broker between the device and the terminal. The user device also activates an application relating to the self-service function which receives directional information relating to the terminal via the broker.

7 The advantage of this arrangement is that the user device need not communicate directly with the self-service terminal other than to determine it is in the vicinity. This means that a user device can communicate via the broker with different kinds of terminals, for example in different airports, without needing to understand the terminal type and to be configured accordingly. As a consequence, interaction is simplified, queuing times may be reduced and user-experience, cost of operation, efficiency and stress may be ameliorated.

The law

8 The relevant law is defined in section 1(2) of the Act and can be viewed online at the IPO's website:

The Act: https://www.gov.uk/guidance/the-patent-act-1977

The Rules:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/694249/Patents-Rules-2007-06042018.pdf

9 The Manual of Patent Practice explains the IPO's practice under the Act and makes helpful references to relevant case law. The Manual can be viewed online at the IPO's website: https://www.gov.uk/guidance/manual-of-patent-practice-mopp. In particular, sections 1.33-1.39.3 are helpful which relate to business methods and computer programs. Section 1.20.3 explains that a formal search is not always necessary to identify the nature of the contribution made by a claimed invention and that the Examiner may rely upon their knowledge and experience. By extension, so can I.

10 There is no dispute concerning the relevant law and its application to the facts of this case.

Argument and analysis

11 I have carefully considered the Applicant's arguments set out in the correspondence on file, and the relevant law and practice. I agree with the Examiner's analysis of the issue as set out in his letter dated 6th October 2020 and for the reasons set out

therein find that the application fails to meet the requirements of section 1(2)(c) of the Act.

12 I would add that in so doing, I have evaluated and relied upon the Examiner's knowledge and expertise and I agree that the alleged contribution may be readily identified, as the Examiner has done, without having conducted a formal search for prior art. The Examiner has cited a number of sources to support his reasoning and I consider these to be examples of prior art of which the Examiner was aware[1]. For the avoidance of doubt, I am of the opinion that the decision as to whether the requirements of section 1(2)(c) are met can be made without the need to conduct a formal search for prior art.

Conclusion

13 This application is refused under section 18(3) of the Act.

Appeal

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

Ben Buchanan

Deputy Director, acting for the Comptroller

[1]Birss J in paragraph 17 of Lenovo (Singapore) PTE Ltd v Comptroller General of Patents [2020] EWHC 1706 (Pat)

Annex A: Claims

CLAIMS

1. A method of facilitating interaction between a ticket holder and a self-service function related to a ticket, comprising the steps of:

detecting, by a mobile device proximity to a self-service function, the mobile device having stored thereon information relating to the ticket and the self-service function being related to the ticket;

on detection by the mobile device of proximity to a location, activating an application on the mobile device, the application being related to the self-service function; and

communicating to the mobile device via the application and via a cloud service, information about the self-service function including directional information, the cloud service acting as a broker between the mobile device and the self-service function.

2. A method according to claim 1, wherein the ticket relates to a passenger journey and includes passenger and journey identification.

3. A method according to claim 2, wherein the ticket information comprises a boarding pass.

4. A method according to claim 1, wherein the mobile device detects geolocation device indicating proximity to the self-service function.

5. A method according to claim 4, wherein the geolocation device is a Bluetooth beacon.

6. A method according to claim 1, wherein the application queries the ticket information stored on the mobile device and communicates the ticket information to a remote server.

7. A method according to claim 6, wherein the remote server, in response to receipt of the ticket information provides information relating to the self-service function to the application for presentation to a user of the mobile device.

8. A method according to claim 1, wherein the self-service function is a bag drop and the information relating to the ticket is a boarding pass, comprising communicating passenger information in the boarding pass to a departure control system.

9. A method according to claim 8, comprising determining by the departure control system whether baggage relating to the boarding pass is eligible for bag drop and communicating the eligibility to the mobile device.

10. A method according to claim 8, comprising on deposit of a bag at a bag drop, weighing the bag, determining whether the weight exceeds an allowable weight and, if the weight exceeds an allowable weight arranging for payment of an excess baggage fee via the application.

11. A method according to claim 1, comprising printing a bag tag at the bag drop and communicating instructions for fixing the bag tag to a bag for presentation to a user to the mobile device via the application.

12. A method according to claim 8, comprising, on receipt of a bag by the bag drop, communicating to the application information about boarding and routing to a departure gate.

13. A method of facilitating interaction between a ticket holder and a self-service function related to a ticket, comprising the steps of:

at a location proximate a self-service function related to the ticket, activating an application on a mobile device, the application being related to the self-service function and the mobile device having stored thereon information relating to the ticket; and

communicating to the mobile device via the application and via a cloud service, information about the self-service function including directional information, the cloud service acting as a broker between the mobile device and the self-service function.

14. A method according to claim 13, wherein the application is activated by scanning or imaging a barcode using the mobile device.

15. A system for facilitating interaction between a ticket holder and a self-service function related to a ticket, comprising:

A self-service function;

A mobile device, the mobile device having stored thereon information relating to the ticket;

at least one geolocation device; wherein the mobile device is configured to detect the geolocation device at a location proximate a self-service function, and at least one server having stored thereon computer software for performing the steps of:

on detection by the mobile device of the geolocation device proximate the location, activating an application on the mobile device, the application being related to the self-service function; and

communicating to the mobile device via the application and via a cloud service, information about the self-service function including directional information, the cloud service acting as a broker between the mobile device and the self-service function.

16. A system according to claim 15, wherein the ticket relates to a passenger journey and includes passenger and journey identification.

17. A system according to claim 15, wherein the ticket information comprises a boarding pass.

18. A system according to claim 17, wherein the at least one geolocation device is a Bluetooth beacon.

19. A system according to claim 15, wherein the application queries the ticket information stored on the mobile device and communicates the ticket information to the server.

20. A system according to claim 19, wherein the server, in response to receipt of the ticket information provides information relating to the self-service function to the application for presentation to a user of the mobile device.

21. A system according to claim 15, comprising a departure control system, wherein the self-service function is a bag drop comprising a baggage handling system and a bag drop controller and the information relating to the ticket is a boarding pass, comprising communicating passenger information in the boarding pass to a departure control system.

22. A system according to claim 21, wherein the departure control system is arranged to determine whether baggage relating to the boarding pass is eligible for bag drop and to communicate the eligibility to the mobile device.

24. A system according to claim 22, wherein the baggage handling system comprises a weighing device for weighing a bag on deposit at the bag drop, for determining whether the weight exceeds an allowable weight and, if the weight exceeds an allowable weight arranging for payment of an excess baggage fee via the application.

25. A system according to claim 22, wherein the baggage handling system comprises a printer for printing a bag tag and the bag drop controller is configured to communicate instructions for fixing the bag tag to a bag for presentation to the user to the mobile device via the application.

26. A system according to claim 15, on receipt of a bag by the bag drop, the system is configured to communicate to the application information about boarding and routing to a departure gate.

Annex B: Examiner's letter of 6th October 2020

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Application No: GB1800562.9

6 October 2020

Dear Sirs

Patents Act 1977: Decision by a Hearing Officer

You were previously invited to request a hearing on the issues set out in the examination report which accompanied that letter. You were also informed that, should you respond with further arguments or amendments without requesting a hearing, a decision by a Hearing Officer may be issued based on the papers on file.

Your agent's letter includes additional arguments or amendments but does not request a hearing; your application will therefore be forwarded to a Hearing Officer for consideration. If the Hearing Officer decides that your application does not meet the requirements of the Act, your application may be refused under Section 18(3).

The objection to added matter raised in my previous report dated 10 March 2020 has been resolved by your latest amendments. Therefore, the sole issue to be decided by the Hearing Officer is whether your proposed invention consists of a method for doing business as such and/or a program for a computer as such, and thus is excluded from patentability by Sections 1(1)(d) and 1(2)(c) of the Act. This issue is set out in detail in the following pages.

Opportunity to present further arguments

Your application will be forwarded to a Hearing Officer approximately three weeks after the date of this letter. If you wish to request a hearing or to submit further arguments for consideration by the Hearing Officer you should do so as a matter of urgency. You may request a hearing or file amendments or observations electronically if you wish using the online patent filing services detailed in www.ipo.gov.uk/p-apply-online.

Withdrawal

Alternatively, you may wish to withdraw your application. One way that you can withdraw is by emailing withdraw@ipo.gov.uk.

No search performed

I initially issued a report under Section 17(5)(b) explaining that performing a search would serve no useful purpose and I have not performed any searching since that report. If the Hearing Officer decides in your favour, I would need to perform a full search in relation to your application. This search may reveal documents pertinent to the novelty or obviousness of your claimed invention.

Deferred matters

Since I have not carried out any searching, I have been unable to assess the novelty and inventiveness of your proposed invention. I have also deferred all aspects of examination other than consideration of excluded subject matter until this issue has been resolved. If the Hearing Officer decides in your favour, I would need to consider these deferred matters in full and raise any resulting objections in a further examination report.

Compliance period

The normal, unextended period allowed for complying fully with the requirements of the Act will end on 3 May 2022. You are entitled to extend that period by two months by filing Patents Form 52 and the associated fee.

Yours faithfully

Dr Rob Valkass

Dr Rob Valkass
Examiner

Basis of my report

1. In preparing this report, I have taken account of the amendments filed with your agent's letter of 30 July 2020.

Excluded subject matter – Sections 1(1)(d) and 1(2)(c)

2. I have considered your arguments and your amended claims in detail. I remain of the opinion that your proposed invention relates to both a method for doing business as such and a program for a computer as such and is therefore excluded from patentability under Sections 1(1)(d) and 1(2)(c) of the Act.

3. Section 1 of the Act sets out conditions that an invention must satisfy in order to be eligible for grant of a patent. Section 1(1)(d) states that the grant of a patent is excluded by the conditions set out in Sections 1(2), 1(3) and 4A of the Act. Section 1(2) is of relevance here, and stipulates that certain things are not to be considered as inventions for the purposes of the Act. The relevant parts of Section 1(2) read as follows:

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—

(a) … ;

(b) … ;

(c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer;

(d) … ;

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

4. In *Aerotel*[2] the Court of Appeal set out the following four-step test for determining whether a proposed invention is excluded under Section 1(2):

(1) Properly construe the claim

(2) Identify the actual or alleged 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

5. I will apply this test to your amended claims, addressing your arguments at each step as appropriate.

[2] *Aerotel Ltd v Telco Holdings Ltd & Ors Rev 1* [2006] EWCA Civ 1371, [2007] 1 All ER 225, [2007] Bus LR 634, [2007] RPC 7, [2006] Info TLR 215 at [40]-[49]

Step 1 – Properly construe the claim

6. Of your amended claims, three are independent: method claim 1, method claim 13 and system claim 15. In my previous report I stated that the claims are considered clear enough to assess whether they relate to excluded subject matter. I do not believe the latest amendments change this, and you have not raised any issues of claim construction in your latest letter.

7. It is however worth considering the meaning given to certain terms in the claims by the description:

- The term "self-service function" relates not to an abstract function but to a physical object such as a bag drop system, passport control scanner or other passenger processing kiosk or station in an airport (page 2 lines 30-31, page 3 line 11 and page 5 line 24 to page 6 line 9 as originally filed).
- The term "directional information" is not defined in your application as originally filed yet could take on two possible meanings. The word "directional" could be construed in a narrow geographical or navigational sense, or could be construed in the broader sense of more general instructions or guidance. Your description as originally filed suggests that the broader interpretation was intended as your proposed invention's stated advantage is "simplifying interaction between ticket holders and self service functions" by "making interactions with the bag drop more simple, and enabling airline or other service providers to reduce the amount of human interaction required in the bag drop, and other self-service processes and so reduce cost and overheads" (page 2 line 39 to page 3 line 2 as originally filed). I have therefore construed "directional information" in the broad sense of instructions or guidance.
- The term "broker" is also not defined in your application as originally filed. Your description uses this word only once: "In general, the Cloud Service (220 Figure 3) acts as a broker between the mobile device 200 and the baggage unit controller." From this context, I have interpreted a "broker" as an intermediary passing data from one device or service to another.

8. Claim 1 therefore defines a method of facilitating an interaction between a ticket holder and a self-service function such as an airport bag-drop system or passport control scanner. A mobile device (such as a smartphone, tablet or laptop) contains information relating to the ticket and the self-service function related to that ticket. When the mobile device is detected as being proximate to a location (by means such as Bluetooth ® beacons or "any other indoor or outdoor geo-location technology", or more manual means such as a user scanning a barcode at the location) an application related to the self-service function (such as an airport self-check-in application) is activated. This application provides directional information (i.e. instructions) related to the self-service function (e.g. instructions on how to complete a self-check-in process). The directional information is received *via* a cloud service acting as an intermediary between the mobile device and the self-service function.

9. Independent claim 13 also defines a method of facilitating interaction between a ticket holder and a self-service function such as an airport bag-drop system or passport control

scanner. An application related to the self-service function is activated on a mobile device at a location proximate the self-service function. The mobile device also stores information relating to the ticket. Directional information about the self-service function is communicated to the mobile device *via* an intermediary cloud service.

10. Independent claim 15 defines a system for facilitating interaction between a ticket holder and a self-service function. The system comprises the self-service function, a mobile device, a geolocation device (such as a Bluetooth ® beacon) and a server. The mobile device stores ticket information and is configured to detect the geolocation device. The server runs software which performs two functions: activating an application on the mobile device when the mobile device detects the geolocation device, and sending directional information about the self-service function to the mobile device *via* a cloud service.

11. It is unclear what difference in scope was intended between claims 1 and 13. For the purpose of assessing excluded subject matter, I have considered claims 1 and 13 to relate to the same inventive concept. The system of claim 15 also appears to correspond to the method of claims 1 and 13. I will mainly address claim 1 on the understanding that the same analysis applies to claims 13 and 15 *mutatis mutandis*.

Step 2 – Identify the actual or alleged contribution

12. The process of identifying the contribution was summarised in paragraph 43 of *Aerotel* as follows:

… it 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 – which is surely what the legislator intended.

13. In your latest letter, you define the contribution made by your proposed invention as:

Improving a passenger's interaction with a self-service device in a way that enables a passenger's mobile device to interact with any self-service device without needing to understand any specific device.

14. You base this characterisation of the contribution on the introduction of a cloud broken into the amended independent claims, explaining that "Near Field Communication, for example Bluetooth, is only used to identify a bag drop area or other self-service function. Communication between the mobile device and the self-service function is then via a cloud service broker". You argue that this contributes a technical advantage in that "it avoids the requirement that the mobile device has to understand different bag drop device types".

15. It is not clear to me exactly what is meant by this definition of the contribution. Bluetooth ® and Near Field Communication (NFC) are fundamentally different technologies; one is not a sub-type of the other. Both are, however, a type of short-range wireless communication protocol. However, your proposed invention as claimed is not restricted to the use of NFC, Bluetooth ® or any other short-range wireless protocol. Rather, the claims recite mere "detection by the mobile device of proximity to a location". Your description makes clear that while this does encompass NFC and Bluetooth ®, it is also broad enough to

encompass other means of identifying a location such as scanning a barcode displayed on a printed sticker at the location (page 6 lines 11-21 as originally filed).

16. Nonetheless, even if the claims were limited to a specific short-range wireless communication protocol, it is notoriously well-known for mobile devices such as smartphones to use one technology to identify their location (e.g. Bluetooth ®, NFC, GPS, cell tower triangulation) and another technology to communicate with cloud services and other devices (e.g. WiFi ®, 3G/4G/5G mobile signals) without the need for in-depth technical understanding of the specific devices being communicated with. Your claims and description also contain no technical details of the communication technology or protocol. It therefore seems to me that the contribution you have identified relates to the application of this known communication paradigm to the specific use-case or context of passenger self-service processes such as airport self-check-in, bag drops and passport control.

17. Your most recent identification of the contribution also eschews many important features of your independent claims. While the contribution is not simply equal to literal wording of the claim, it also cannot be correct to selectively discard or ignore elements of the claim without reason (a practice sometimes known as “salami slicing”). Instead, we must consider what the proposed invention as claimed adds to the stock of human knowledge considering the problem said to be solved, how the proposed invention works and what its advantages are.

18. Your description puts forth a number of problems with existing bag drop systems. Traditional staffed check-in processes are said to be slow, leading to long queues, and have high staffing costs (page 1 lines 7-13 as originally filed). Semi-automated self-service bag drops still require interaction between a passenger and either a computerised kiosk or human agent, necessitating costly investment in staffing or modifications to check-in counters while remaining operationally complex (page 1 lines 17-25 as originally filed).

19. Your proposed invention makes use of a passenger’s mobile device to detect the passenger’s proximity to a self-service function (such as an airport bag drop) by means of one of a number of geolocating techniques. When the passenger is close to the bag drop, a mobile application is activated on the user’s mobile device to provide information about the bag drop process. This is alleged to simplify interaction between the passenger and the bag drop, reduce the amount of human interaction required to complete the bag drop process, and reduce costs (page 2 line 29 to page 3 line 2 as originally filed).

20. While your proposed invention requires hardware including a computer system to carry it out, the contribution does not relate to a new computer system or any new arrangement of hardware *per se*. The claimed step of detecting the mobile device is broad, and all of the techniques disclosed in the description are well-known in the art: Bluetooth® beacons, NFC tags, WiFi® triangulation, and scanning or photographing barcodes (page 6 lines 11-21 as originally filed). Indeed, your description acknowledges WO 2013/117723 A1 as providing an example of prior art in this field, showing that geolocating passengers within an airport by such methods is already known. Similarly, the computer hardware used to implement the method appears to be nothing beyond a conventional computing system. Triggering functionality of a mobile device (such as launching an application) in response to the mobile device’s proximity to a location was also notoriously well-known in the art at your

claimed priority date.[3] The contribution made by your proposed invention therefore does not extend to any technical features related to detecting or tracking the mobile device's location, nor to the broad concept of triggering mobile device functionality in response to that detected location.

21. Bearing the above in mind, I maintain that the contribution made by your proposed invention is:

Simplifying a ticket-holder's interaction with a self-service process by automatically launching an instructional application on the ticket-holder's mobile device based on the ticket-holder's proximity to the self-service process using conventional location determining and cloud computing means.

22. I note this is similar to the contribution you identified in your letter of 23 January 2020.

23. I note that dependent claims are directed to method steps which make use of hardware functions of the bag drop itself, such as weighing bags and printing a bag tag. Not only are bag drops which weigh bags and print bag tags notorious in the art, the description appears to contain no technical detail about these functions that would suggest that a contribution has been made to the bag drop hardware itself.

Step 3 – Ask whether it falls solely within the excluded subject matter

24. I maintain that the contribution falls solely within the excluded subject matter both as a method for doing business as such and as a program for a computer as such.

25. As discussed above, there is nothing new in geolocating ticket-holders in an airport (or other locations) by any one of a number of different techniques, nor is there anything new in using cloud services to deliver information to mobile devices. The contribution is therefore limited to the use of these existing technologies for the specific use case of 'simplifying' a self-service process by providing instructions to ticket-holders, thus reducing the need for a ticket-holder to seek assistance from a staff member and consequently reducing financial outlay on staff. The provision of these instructions to improve the user experience of self-service processes is a business consideration having organisational and administrative character. Both the problems to be solved (self-service processes being complex to use and expensive to implement, inefficient passenger movements, stress caused to passengers, time-consuming manual check-in processes and high cost overheads) and alleged advantages (reduced staffing costs and reduced queue times) are also administrative, organisational and financial business considerations rather than being technical in nature.

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[3] See, for example, https://www.beaconzone.co.uk/blog/learnings-from-using-ibeacons-in-wales-oldest-gallery/ from October 2016 and the article linked therein at https://www.nesta.org.uk/feature/digital-rd-fund-arts-wales-case-studies/ibeacons/ (including a video from June 2015) explaining the use of iBeacons ® to trigger delivery of directional information about art gallery exhibits to mobile devices as part of a WiFi ®-based cloud system. The IFTTT ® cloud service has also offered triggering of applications and their functions on mobile devices based on device location since December 2013 as per https://www.theverge.com/2013/12/12/5203308/ifttt-adds-location-automation-triggers.

26. In your letter dated 22 August 2018 you argued that my analysis represented "a simplistic conclusion" and that your proposed invention "involves both a mix of business considerations and technical considerations" by providing "a technical solution that reduces queueing times". The reduction of queuing times is, in general, a business rather than technical problem. The problems which go along with this, such as frustrated passengers, higher staffing costs and lost custom, are also business rather than technical problems. The application of conventional geolocation and cloud computing technology in order to address these non-technical business problems does not represent a technical contribution.

27. You have previously argued that the contribution lies in fundamentally improving self-service functions to enable them to be operated more efficiently. Making instructions more readily available to users *via* known means does not improve the operation of the self-service function *per se*, and certainly no technical improvement has been made to the self-service function itself (e.g. to check-in desk, passport gate or bag drop hardware). Put another way, any increase in efficiency comes not from improving the self-service functions themselves, but from better teaching the users how to operate those self-service functions.

28. You have previously argued that the contribution is novel and inventive and thus cannot fall solely within the excluded subject matter. As I have stated previously, the requirements of Sections 1(1) and 1(2) are separate. Although I have not performed a search and therefore cannot comment on the novelty and inventiveness of your claims at this stage, even if the claims were determined to be novel and inventive, there is no inherent inconsistency in finding a claim to be novel and inventive yet also to make a non-technical contribution falling solely within the excluded subject matter.[4]

29. You have also previously argued that the contribution is 'better' than what has come before it, and therefore must avoid exclusion. I again point to the words of Fox LJ in *Merrill Lynch*:[5]

The fact that the method of doing business may be an improvement on previous methods of doing business does not seem to me to be material. The prohibition in section l(2)(c) is generic; qualitative considerations do not enter into the matter.

30. You have also previously acknowledged that "the problem of queueing may be characterised as a business problem" but countered that "it is well established that technical problems may be solved in a course of solving a greater business problem" and that "in the present case, it is undeniable that the applicant is using technology to address a business problem rather than a non-technical solution". While I agree that technical inventions may well arise out of business needs, this does not mean that any use of known technology makes an otherwise unpatentable invention suddenly fall outside the exclusions. This was made clear by Birss J in *Halliburton Energy Services*:[6]

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 computers are self evidently technical in nature. Thus when a business method is implemented on a computer, the patentee has a rich vein of arguments to deploy in

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[4] *Lantana Ltd v The Comptroller General of Patents, Design and Trade Marks* [2014] EWCA Civ 1463, [2015] RPC 16 at [19] (Arden LJ), [70] (Kitchin LJ)

[5] *Merrill Lynch's Application* [1989] RPC 561 (EWCA) at 569

[6] *Re Halliburton Energy Services Inc* [2011] EWHC 2508 (Pat), [2012] Bus LR D65, [2012] RPC 12 at [35]

seeking to contend that his invention gives rise to a technical effect or makes a technical contribution. For example the computer is said to be a faster, more efficient computerized book keeper than before and surely, says the patentee, that is a technical effect or technical advance. And so it is, in a way, but the law has resolutely sought to hold the line at excluding such things from patents.

31. I thus maintain that the contribution falls solely within the excluded subject matter as a method for doing business as such.

32. Being implemented using computer software, I also maintain that the contribution falls solely within the excluded subject matter as a program for a computer as such.

Step 4 – Check whether the actual or alleged contribution is actually technical in nature

33. In *Symbian*[7] the Court of Appeal stated that a computer program may not be excluded if it makes a technical contribution. As your contributed computer program merely implements a non-technical business method, the contribution cannot actually be technical in nature.

34. Nevertheless, the decisions in *AT&T*[8] and *HTC*[9] provide guidance in the form of five signposts which may indicate that a computer program provides a technical contribution:

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.

I shall consider each of these signposts accordingly.

35. With regards to signpost (i), you argue that any of the mobile device, cloud service or self-service device may be taken as 'the computer' as each has a technical effect on a process outside the computer by simplifying the interaction of the mobile device with the self-service function through the cloud service.

36. 'The computer' in this signpost encompasses each of the conventional systems which communicate over the network.[10] The processes carried out by your proposed invention

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[7] *Symbian Ltd v Comptroller General of Patents* [2008] EWCA Civ 1066, [2009] Bus LR 607, [2009] RPC 1

[8] *Re AT&T Knowledge Ventures LP* [2009] EWHC 343 (Pat), [2009] Bus LR D51, [2009] FSR 19

[9] *HTC Europe Co Ltd v Apple Inc (Rev 1)* [2013] EWCA Civ 451, [2013] RPC 30

[10] *Lantana Ltd v The Comptroller-General of Patents, Designs and Trade Marks* [2013] EWHC 2673 (Pat) at [30]; confirmed on appeal in *Lantana Ltd v The Comptroller General of Patents, Design and Trade Marks* [2014] EWCA Civ 1463, [2015] RPC 16 at [46]

therefore occur entirely within the computer system. Furthermore, providing instructions to a user to assist in their use of a self-service process is not a technical process. Likewise, none of the problems addressed by your proposed invention nor any of its alleged advantages are technical effects. Signpost (i) therefore points away from the contribution being technical.

37. On signpost (ii), you argue this signpost is met "by the understanding that NFC need only be used for identification of the self-service function and that further communication between the mobile device and the self-service function is then via a cloud broker".

38. As discussed in step 2 above, your claims (and thus the contribution) are not limited to use of NFC or any other short-range wireless communication protocol to identify the self-service function. Furthermore, your application as originally filed provides no architectural or technical detail about the operation of NFC (or any of the other communication technologies which may be employed within the scope of your claims). Similarly, your application contains no teaching at the technical or architectural level of any of the computing devices involved in your proposed invention. A contribution therefore cannot have been made at the level of the architecture of the computer. The contribution made by your proposed invention is also tied to specific instructional data regarding a ticket and a self-service function such as an airport check-in process and an associated mobile application specifically for this purpose. Any effect is therefore inherently tied to the specific data being processed and applications being run. Signpost (ii) therefore points away from the contribution being technical.

39. Regarding signpost (iii), you again raise the argument that you believe the claims to be novel and therefore signpost (iii) must be met.

40. Signpost (iii) emphasises that the effect must be more than a general-purpose computer running an application in the conventional manner. Instead, the computer itself must operate differently than it did before as a result of the program being run. However, the computer of your proposed invention operates entirely conventionally, merely running under the control of an allegedly new program. Regardless of whether the program itself is new, the operation of the computer itself remains unchanged as a consequence of the identified contribution. Signpost (iii) therefore points away from the contribution being technical.

41. Regarding signpost (iv), you state that you "do not see that this is relevant to this invention which is not attempting to increase internal speed or reliability". I agree that the contribution does not relate to a fundamentally more efficient or effective computer and thus signpost (iv) points away from the contribution being technical.

42. Regarding signpost (v) you argue that including the cloud service removes the need for each mobile device to be configured for use with each type of self-service function, and thus a technical problem has been overcome with a technical solution.

43. As discussed above, the use of cloud services to trigger applications and functions on a mobile device based on the mobile device's location was known at the claimed priority date. Your contribution thus does not solve this problem. Rather, the contribution relates to using this known technology specifically in the context of self-service processes (such as those in an airport) to solve several business problems and provide business advantages.

Neither the problems nor solutions provided by your proposed invention are considered to be technical in nature. Signpost (v) therefore cannot assist.

44. Finally, you have previously referred me to paragraph 17 of the Hearing Officer's decision in *Landmark Graphics*[11] that the applicant should be afforded the benefit of the doubt in excluded matter cases. In this paragraph, the hearing officer is setting out the question which they intend to resolve: whether there is sufficient doubt regarding excluded matter in each of the cases under consideration that the applicant should be afforded the benefit of that reasonable doubt. I do not believe that such substantial doubt exists in the present case. I note current Office practice that, as excluded matter is a question of law rather than of pure fact, it is not something on which applicants are automatically entitled to the benefit of any doubt.[12] I further draw your attention to the decisions of the Hearing Officers in *Adobe Systems*[13] and *Encompass*[14] on similar 'benefit of the doubt' arguments. In both cases the argument was not found to be convincing.

45. Your proposed invention is therefore excluded from patentability by Section 1(2)(c) both as a method for doing business as such and as a program for a computer as such.

46. Having again considered the dependent claims and description in full, I have been unable to identify any matter which could provide a contribution outside of these exclusions.

Search would not serve any useful purpose

47. The contribution lies entirely within fields excluded from patentability and is not technical. I have again read through your specification in detail, but I have been unable to identify any subject matter that could form the basis of a patentable invention.

48. You have previously argued that a search should be performed as search results are important when deciding whether to pursue filings overseas. While I appreciate the usefulness of the search results in making such decisions, the term "useful purpose" as used in Section 17(5) means serving a useful purpose in relation to making an application for a UK patent. A search therefore does not serve a useful purpose within the meaning of Section 17(5) merely by virtue of providing guidance on whether to file in a country in which the proposed invention may not be excluded from patentability.

49. You have also previously argued that a search is necessary in order to determine the issue of excluded subject matter. The courts have consistently found that a formal search is not a prerequisite to assessing excluded subject matter, but rather examiners are entitled to rely upon their experience and knowledge of the field.[15]

50. I thus maintain that carrying out a search would serve no useful purpose in relation to making an application for a UK patent.

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[11] *Landmark Graphics' Applications* BL O/112/18
[12] *Manual of Patent Practice*, Section 1.10
[13] *Adobe Systems' Applications* BL O/360/19 at [10]; BL O/199/18 at [37], [38]
[14] *Encompass' Application* BL O/094/19 at [26]
[15] *Lenovo (Singapore) PTE Ltd v Comptroller General of Patents* [2020] EWHC 1706 (Pat) at [17]; *Shopalotto.com Ltd's Application* [2005] EWHC 2416 (Pat), [2006] RPC 7 at [12]; *CFPH LLC's Applications* [2005] EWHC 1589 (Pat) at [96]

Deferred matters

51. Since I have not carried out a search, I am unable to assess the novelty and inventiveness of your proposed invention. Furthermore, in light of the objection to excluded subject matter, I see little prospect of your application proceeding to grant. I have therefore deferred all other aspects of examination until the issue of excluded subject matter has been resolved.