

Citation: Ticketmaster (Re), 2021 CACP 36
Commissioner's Decision #1589
Décision du commissaire n° 1589
Date: 2021-07-23

TOPIC: J00 Meaning of Art

J50 Mere Plan

O00 Obviousness

SUJET: J00 Signification de
la technique

J50 Simple plan

O00 Évidence

Application No. : 2,602,096

Demande n° 2 602 096

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,602,096, having been rejected under subsection 30(3) of the *Patent Rules* (SOR/96-423) as they read immediately before October 30, 2019, has been reviewed in accordance with paragraph 199(3)(c) of the *Patent Rules* (SOR/2019-251). The recommendation of the Patent Appeal Board and the decision of the Commissioner are to refuse the application.

Agent for the Applicant:

MARKS & CLERK

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INTRODUCTION

- [1] This recommendation concerns the review of rejected patent application number 2,602,096, entitled “Apparatus and Methods for Providing Queue Messaging Over a Network” and owned by Ticketmaster.
- [2] A review of the rejected application has been conducted by the Patent Appeal Board (the Board) pursuant to paragraph 199(3)(c) of the *Patent Rules* (SOR/2019–251). The issues to be considered is whether the claims are not directed to patentable subject matter and whether the claims are obvious. As explained in more detail below, my recommendation is to refuse the application.

BACKGROUND

The application

- [3] Canadian patent application 2,602,096 (the instant application), based on a previously filed Patent Cooperation Treaty application, is considered to have been filed in Canada on March 22, 2006 and was laid open to the public on September 28, 2009.
- [4] The instant application relates to electronic resource allocation, and in particular, to apparatus and processes for electronically allocating resources and for providing queue messaging over a network related to resource requests.

Prosecution history

- [5] On October 16, 2017, a Final Action (FA) was written pursuant to subsection 30(4) of the *Patent Rules* (SOR/96–423) as they read immediately before October 30, 2019 (the former *Rules*). The FA stated that the application was defective on the grounds that claims 1-19 dated April 11, 2016 on file at the time of the FA (the claims on file) encompass subject matter that lies outside the definition of “invention” and does not comply with section 2 of the *Patent Act*.
- [6] In a April 16, 2018 response to the FA (RFA), the Applicant submitted a first set of proposed claims and corresponding proposed amendments to the description reflecting the proposed claim language. The Applicant argued for allowance of the proposed claims, which defined with greater particularity the subject matter of the claimed invention.

- [7] As the Examiner considered the application not to comply with the *Patent Act* and *Patent Rules*, the application was forwarded to the Board for review on January 24, 2019, pursuant to subsection 30(6) of the former *Rules*, along with an explanation outlined in a Summary of Reasons (SOR) that maintained the rejection based on the defect identified in the FA.
- [8] With a letter dated January 28, 2019, the Board sent the Applicant a copy of the SOR and asked the Applicant to confirm continued interest in having the application reviewed. In a response dated April 29, 2019, the Applicant confirmed its continued interest in having the application reviewed by the Board.
- [9] The undersigned was assigned to review the application under paragraph 199(3)(c) of the *Patent Rules* and to make a recommendation to the Commissioner as to its disposition.
- [10] A Preliminary Review letter (PR letter) dated March 19, 2021 set out a preliminary analysis and rationale as to why, based on the written record, claims 1-19 on file and the first set of proposed claims are not directed to patentable subject matter, prohibited under subsection 27(8) of the *Patent Act* and falls outside the definition of “invention” in section 2 of the *Patent Act*. The PR letter further assessed that claims 1-19 on file and the first set of proposed claims would have been obvious and therefore non-compliant with section 28.3 of the *Patent Act*. The PR letter offered the Applicant the opportunities to attend an oral hearing and to make further written submissions.
- [11] In a response to the PR letter (RPR) dated April 16, 2021, the Applicant submitted a second set of proposed claims, claims 1-27, and asserted that the second set of proposed claims are directed to non-obvious and patentable subject matter.
- [12] An oral hearing was held April 29, 2021.

ISSUES

- [13] In view of the above, there are two issues to be considered by this review:
- whether the claims 1-19 on file are not directed to patentable subject matter and are non-compliant with sections 2 and 27(8) of the *Patent Act*; and
 - whether the claims 1-19 on file are obvious and are therefore non-compliant with section 28.3 of the *Patent Act*.
- [14] I will also consider the latest proposed claims, that is, the second set of proposed claims

and whether they constitute amendments necessary for compliance with the *Patent Act* and *Patent Rules*.

LEGAL PRINCIPLES AND PATENT OFFICE PRACTICE

Purposive construction

[15] In accordance with *Free World Trust v Électro Santé Inc*, 2000 SCC 66 [*Free World*] and *Whirlpool Corp v Camco Inc*, 2000 SCC 67 [*Whirlpool*], purposive construction is performed from the point of view of the person skilled in the art in light of the relevant common general knowledge (CGK), considering the whole of the disclosure including the specification and drawings. In addition to interpreting the meaning of the terms of a claim, purposive construction distinguishes the essential elements of the claim from the non-essential elements. Whether or not an element is essential depends on the intent expressed in or inferred from the claim, and on whether it would have been obvious to the skilled person that a variant has a material effect upon the way the invention works.

[16] “Patentable Subject-Matter under the *Patent Act*” (CIPO, November 2020) [PN2020–04] also discusses the application of these principles, pointing out that all elements set out in a claim are presumed essential unless it is established otherwise or such presumption is contrary to the claim language.

Patentable subject matter

[17] The definition of invention is set out in section 2 of the *Patent Act*:

invention means any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter.

[18] Subsection 27(8) of the *Patent Act* also prescribes that:

No patent shall be granted for any mere scientific principle or abstract theorem.

[19] PN2020–04 describes the Patent Office’s approach to determining if a claim is patentable subject matter:

To be both patentable subject-matter and not be prohibited under subsection 27(8) of the *Patent Act*, the subject-matter defined by a claim must be limited to or narrower than an actual invention that either has physical existence or manifests

a discernible physical effect or change and that relates to the manual or productive arts, meaning those arts involving or concerned with applied and industrial sciences as distinguished in particular from the fine arts or works of art that are inventive only in an artistic or aesthetic sense.

[20] *PN2020-04* further describes the Patent Office’s approach to determining if a computer-related invention is patentable subject matter. For example, the mere fact that a computer is among the essential elements of the claimed invention does not necessarily mean that the claimed invention is patentable subject matter. An algorithm itself is abstract and unpatentable subject matter. A computer programmed to merely process the algorithm in a well-known manner without solving any problem in the functioning of the computer will not make it patentable subject matter because the computer and the algorithm do not form part of a single actual invention that solves a problem related to the manual or productive arts. On the other hand, if processing the algorithm improves the functionality of the computer, then the computer and the algorithm would together form a single actual invention that solves a problem related to the manual or productive arts and the subject matter defined by the claim would be patentable.

Obviousness

[21] Section 28.3 of the *Patent Act* requires claimed subject matter to not be obvious:

The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to

(a) information disclosed more than one year before the filing date by the Applicant, or by a person who obtained knowledge, directly or indirectly, from the Applicant in such a manner that the information became available to the public in Canada or elsewhere; and

(b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

[22] In *Apotex Inc v Sanofi–Synthelabo Canada Inc*, 2008 SCC 61 [*Sanofi*] at para 67, the Supreme Court of Canada stated that it is useful in an obviousness inquiry to follow the following four-step approach:

- (1) (a) Identify the notional “person skilled in the art”;
- (b) Identify the relevant common general knowledge of that person;

- (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- (3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;
- (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

ANALYSIS

Purposive construction

Overview of the instant application

- [23] As stated above, the instant application relates to electronic resource allocation, and in particular, to apparatus and processes for electronically allocating resources and for providing queue messaging over a network related to resource requests.
- [24] The computer-implemented system determines if resources, such as seat or event tickets, will be available when a request associated with a first requester/customer for tickets is anticipated to be serviced. This anticipated service is based on historical queue abandonment and ticket availability information. If no ticket inventory is expected to be available by the time the request is anticipated to be serviced, then a message is transmitted to the requester/customer to indicate that tickets will unlikely be available. Message options can include offering a link to the requester/customer to purchase tickets to other events if the current ticket request is unlikely to be fulfilled.

The person skilled in the art and their relevant common general knowledge

- [25] The PR letter at page 5 preliminarily adopted the characterization of the person skilled in the art as identified in the FA:

The FA at page 2 identified the skilled person and the relevant CGK, I generally agree with these identifications within the FA:

The skilled person or persons may consist of information technology engineers familiar with the design of resource allocation systems comprising computers connected through a data network.

[26] The PR letter at pages 5-7 assessed the CGK from the FA and the instant description dated February 27, 2015. The PR letter also introduced prior art documents D1 and D2 as evidence of both the CGK and obviousness, noting that “D2 is considered citable after review of the Applicant’s US provisional priority documents US60/664,234, US60/664,131, US60/663,999, US60/664,028 and US60/664,000 dated March 22, 2005; which are publicly available on the USPTO PAIR website”:

D1: US 2002/0062236 Murashita et al. May 23, 2002

D2: US 2005/0198107 Cuhls et al. September 8, 2005

[27] The PR identified the CGK as follows:

The relevant CGK includes:

- Knowledge of known methods for allocating resources based on queued requests (FA, page 2).
- Knowledge that conventional systems for allocating resources often do not efficiently allocate such resources or units to users (instant application, paragraph 0004).
- Knowledge that the systems disclosed are performed by software modules including executable code and instructions running on one or more general-purpose computers (instant application, paragraph 0065).
- Knowledge that computers can include one or more central processing units (CPUs) that execute program code and process data, memory, including one or more of volatile memory, such as random access memory (RAM) for temporarily storing data and data structures during program execution, non- volatile memory, such as a hard disc drive, optical drive, or FLASH drive, for storing programs and data, including databases, which may be referred to as a “system database,” and a wired and/or wireless network interface for accessing an intranet and/or Internet (instant application, paragraph 0065).
- Knowledge that computers can include a display for displaying user interfaces, data, and the like, and one or more user input devices, such as a keyboard, mouse, pointing device, microphone and/or the like, used to navigate, provide commands, enter information, provide search queries, and/or the like. However, the present invention can also be implemented using special purpose computers, terminals, state machines, and/or hardwired electronic circuits (instant application, paragraph 0065).
- Knowledge that ticket items such as airline tickets and groups of tickets including related merchandise can be considered a “Unit” for sale using the conventional processes and systems (instant application, paragraphs 0067 and 0068).

- Knowledge that a PDA or personal computer may be connected to a network via an intermediary, such as an Internet Service Provider, or a specific service provider host as would be understood by those of ordinary skill in the art. (D2, paragraph 0014)
- Knowledge that a queue manager may include a spreadsheet application that maintains a queue, augmented by a macro or other script which performs the operations described. For example, commercially available spreadsheet applications, such as Microsoft Excel, may be scripted (using Visual Basic, for example). Alternatively, cross-platform Perlbased spreadsheet scripts, such as WriteExcel may be used to implement a queue manager. (D2, paragraph 0015)
- Knowledge that patrons in a networked queue can be connected via duplex channels, depending on the patron's communication device. Additionally, the patron may select additional notification information, such as a current position in the queue. (D2, paragraph 0021)
- Knowledge that it would be appreciated by those of ordinary skill in the art that a linear extrapolation may be a sufficient approximation to the delays experienced by the patrons in a queue in typical service provider queue environments in which the rate at which patrons are served is reasonably uniform over the typical wait time for the patrons. In other words, the circumstances that determine the rate at which patrons are served are expected to be reasonably uniform for any particular venue such as a restaurant, although the rates may differ across venues. (D2, paragraph 0029)
- Knowledge that it would be appreciated by those of ordinary skill in the art, that queue information, such as the remaining time, or queue position may, alternatively, be selectable by the patron. This information may be patron selectable, by, for example, a web page form, e-mail message or similar mechanism, as would be recognized by persons of ordinary skill in the art. (D2, paragraph 0029)

I base this identification on the definition of the skilled person previously presented. The first point is supported by the application's description of what is typical in the field (paragraph 0004) and the consecutive points are supported by D2. The low level of detail in the instant application concerning the implementation of the proposed computerized method suggests that such implementation must be within the grasp of the skilled person and thus not in need of further explanation.

[28] The Applicant did not dispute the above characterizations of either the person skilled in the art or the CGK in the RPR or during the hearing. I adopt these characterizations for this review.

[29] In addition, I note the following prior art document as pertinent to my assessment below of patentable subject matter of the second set of proposed claims:

D3: US 5,283,897 Georgiadis et al. February 1, 1994

[30] D3 is directed to a semi-dynamic load balancer for a transaction processing system that reallocates transaction types among computers in the system as a group rather than as individual transactions. D3 identifies that load balancers are known in the art of transaction processing systems, including reservation systems (D3, column 1, line 26 to column 4, line 21). In addition to the CGK identified above, I add the knowledge of the use of load balancers in transactions processing systems.

The representative claims

[31] The instant application includes 19 claims on file, including method claims 1 to 7, system claims 8 to 13 and computer product claims 14 to 19 reciting similar options. The independent claims 1, 8, and 14 recite similar features.

[32] The PR letter at pages 7-8 considered independent claim 1 as representative of the invention. The claim is directed to a computer-implemented method that recites steps for providing queue messaging to resource requestors:

1. A method of providing queue messaging to resource requestors, the method comprising:

determining or estimating by a computer system a position in a queue of a request associated with a first requester and a first resource, wherein: the request was received from a user terminal associated with the first requester, the first resource is an event ticket, and the queue is configured to queue at least requests for event tickets received from user terminals;

determining or estimating by the computer system whether the first resource will be available when the request is anticipated to be serviced, based at least in part on:

historical queue abandonment data with respect to ticket requests;

and

how many ticket requests there are in the queue; and

at least partly in response to estimating or determining that the first resource will not be available or is unlikely to be available when the request is anticipated to be serviced, transmitting by the computer system a message over a network to the user terminal, the message indicating that the first

resource will not be available or is unlikely to be available when the request is anticipated to be serviced.

[33] As the Applicant did not dispute the use of this claim as representative, I consider independent claim 1 as the representative claim in this review.

Meaning of claim terms

[34] The PR letter at page 8 construed the following terms based on their description in the instant application:

- A “resource” or a “unit” is allocated to users (paragraph 0004)
- A “resource” can relate to a ticket, such as a seat or event ticket (paragraph 0007 and 0008)
- “Allocating” is defined as selling (paragraph 0099)
- “Queues” are disclosed throughout the instant application, and are not defined as being a specific machine or database. A “queue” is defined in the broadest sense as stored resource requests from a plurality of users waiting to be processed. (abstract).

[35] As the Applicant did not comment on these claim terms as construed, I adopt them in this review.

The essential elements of the claims

[36] The PR letter at pages 8-9 identified the essential elements of the representative claims:

Pages 2, 3 and 4 of the FA performed a purposive construction that resulted in a set of essential elements for certain claims according to a previous Patent Office practice, now superseded by *PN2020-04*. I undertake anew the identification of essential elements.

According to *PN2020-04*, purposive construction is conducted in accordance with the principles set out by the Supreme Court of Canada in *Free World* and *Whirlpool*. The objective determination considers where the person skilled in the art would have understood the applicant to have intended to place the fences around the monopoly being claimed.

Considering the representative claim 1, and the whole of the specification, the person skilled in the art would understand that there is no use of language indicating that any of the steps in each claim are optional, a preferred embodiment or one of a list of alternatives. Nor is there any indication in the record before us that would lead to a determination of any claimed elements being non-essential. Therefore, in my preliminary view, all the computer-implemented method steps

identified in the representative claim 1 are considered to be essential, including the computer-implemented components that are used for carrying out these method steps as recited in the corresponding system claims.

As mentioned above, dependent method claims 2 to 7, system claims 8 to 13, and computer product claims 14 to 19 recite similar options. These features are also considered essential.

[37] As the Applicant did not dispute this preliminary view, I consider that all method steps of the representative claim 1 are essential.

Patentable subject matter

[38] Given that the preliminary view of essential elements differed from that of the FA, the PR letter undertook anew the assessment of patentable subject matter according to *PN2020-04*, assessing whether the subject matter of the representative claim forms a single actual invention having physical existence or a discernible physical effect or change and is related to the manual or productive arts.

[39] The PR letter at pages 9-11 set out its preliminary analysis with respect to patentable subject matter:

Representative claim 1 is directed to providing notification to resource requesters/ticket customers by determining the queue position of a request from multiple user terminals. Claim 1 performs two determining/estimating steps; determining/estimating a position in a queue of a request to buy event tickets online and determining/estimating whether event tickets will be available once the request is processed based on how many tickets are available and historical queue abandonment data; and then performs a message transmitting step if the determination/estimation reveals that no tickets will be left in time for the customer to purchase event tickets.

These steps relate to computerized counting of requests, computerized comparing the number of requests to the number of tickets available, and then sending a computerized message based on the count.

In my preliminary view, all these essential steps of representative claim 1 cooperate together to calculate if an event might sell out before all customers online in the queue at that time can buy available tickets, and then send a message to the customer.

The steps of determining/estimating position in an online queue for buying event tickets, determining/estimating whether there are more customers in the queue than available seats, and transmitting a message that basically states the results of the second determining/estimating step; specifically that there are more customers in line than seats available and therefore tickets may not be available; represent typical computer-implemented steps.

Similarly, the step of determining historical queue abandonment data appears to be some sort of calculating step to determine a percentage of customers lost waiting to be served. It is worth noting that calculation of this historical queue abandonment data is not disclosed.

Finally, the step of transmitting a message is also considered to be another typical computer-implemented data processing step.

The [person skilled in the art] possessing ordinary skill in the art would understand from the specification and their CGK that these functions utilize a generic computer or computers and are carried out in a conventional manner. It is CGK that an online queue manager can be operated using known software such as Excel, VB or Perl; on known computer networks. Accounting for servicing delays in online queues is CGK. The use of duplex channels in online queues is also considered to be CGK. Furthermore queue status information such as time remaining or queue position is also considered to be CGK.

The disclosure describes numerous options and embodiments to allocate recourses, such as ticket auction rules and shifting seating capacity options based on pricing. No further computer-related details are disclosed; the [person skilled in the art], having read the complete specification, would find no explicit nor reasonably inferred disclosure of any improvements to the functioning of the generic computer in claim 1, nor any instructions or guidance for implementing the method on said computer. Instead the focus of the application is on additional ticket allocation options.

According to *PN2020-04*, “[i]f a computer is merely used in a well-known manner, the use of the computer will not be sufficient to render the disembodied idea, scientific principle or abstract theorem patentable subject-matter and outside the prohibition under subsection 27(8) of the *Patent Act*.”

As explained in [*Canada (Attorney General) v Amazon.com, Inc*, 2011 FCA 328 [*Amazon*]] (paras 61-63, 66, 69), a computer cannot be used to give an abstract idea a practical application satisfying the physicality requirement implicit in the definition of invention in section 2 of the *Patent Act* simply by programming the idea into the computer by means of an algorithm.

In my preliminary view, this is the situation for representative claim 1, where the abstract scheme is implemented on the computer, but the computer is merely used in a well known manner, does not form a single actual invention with the abstract scheme and thus does not render the scheme patentable subject-matter. The computer is merely being used to make the kind of calculations it was invented to make.

Accordingly, the method of transmitting a message over a network to a user terminal, indicating that a ticket will not be available or is unlikely to be available when the request is anticipated to be serviced, once it has been determining that tickets will not be available or unlikely to be available when the request is anticipated to be serviced, is abstract and not something having physical existence itself or something that manifests a discernable effect or change. Thus, in my preliminary view, the actual invention of representative claim 1 is prohibited under subsection 27(8) of the *Patent Act* and the subject-matter of representative claim 1, , [sic] is not patentable subject-matter and falls outside the definition of “invention” in section 2 of the *Patent Act*.

The same applies to system claim 8 and computer product claim 14.

Dependant claims 2 to 7, 9 to 13 and 15 to 19 pertain to providing a link to an alternate event, using collaborative filtering to suggest that event to a specific user, and providing wait times are all options that do not render the scheme patentable. The dependent claims do not have physical existence or manifest a discernable effect or change. In my preliminary view, the actual invention of these claims is not patentable subject matter.

Therefore, my preliminary view is that claims 1-19 on file are prohibited under subsection 27(8) of the *Patent Act* and define subject matter that falls outside the definition of invention as per section 2 of the *Patent Act*.

[40] The Applicant did not directly address the preliminary views of the PR letter with respect to prohibited subject matter of the claims on file; rather, the RPR letter asserted that the second proposed claims defined patentable subject matter based on, at least, the additional recited step of “using load balancers”. I will consider these submissions in the “Proposed claims” section below.

[41] Given that the Applicant did not dispute the PR letter’s assessment of prohibited subject matter regarding the claims on file, it is my view that the actual invention of the claims on file are directed to subject matter without physical existence and that does not manifest a discernible effect or change, consistent with the assessment of prohibited subject matter in the PR letter. Thus, the claims on file are directed to subject matter prohibited under subsection 27(8) of the *Patent Act* and that falls outside the definition of “invention” in section 2 of the *Patent Act*.

Obviousness

[42] As noted above, neither the FA nor the SOR identified any obviousness defects, however, the PR letter at pages 11-15 assessed a new obviousness defect, according to subsection 86(9) of the *Patent Rules*, asserting that the claims on file would have been obvious to the person skilled in the art having regard to D1 in light of D2 and the CGK. I will assess this defect using the four-step approach from *Sanofi*.

Step 1: Identify the notional “person skilled in the art” and their CGK

[43] The person skilled in the art and their CGK is set out above in the section labelled “Purposive construction”.

Step 2: Identify the inventive concept of the claim in question or if that cannot readily be done, construe it

[44] The PR letter at page 12 construed the inventive concept of the representative claim 1 as follows:

a method of transmitting a message over a network to a user terminal, indicating that a ticket will not be available or is unlikely to be available when the request is anticipated to be serviced, once it has been determining that tickets will not be available or unlikely to be available when the request is anticipated to be serviced.

[45] The Applicant did not contest this inventive concept as identified in the PR letter and I adopt it for this review.

Step 3: Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed

[46] The PR letter at pages 12-13 describes the general relevance of D1 as follows:

D1 discloses a reservation method offering an alternate event. In paragraph 0004 of D1, getting a ticket for an event is known to include a computerized reservation server and a reservation system for use in ticket purchase/reservation at movie theatres, recreation grounds or the like having a window for customers, such as a ticket or box office, or in service reservation at restaurants. Paragraphs 0005 and 0006 teaches that it is known to purchase tickets online over the internet through a “user window” online through a ticket seller. Figure 1 discloses the use of a user terminal 1 which as taught in paragraphs 0113 and 0115 can be a “portable telephone made to transmit and receive data”. A phone display is depicted at Figure 1 reference 1e to show that a restaurant's “PRESENT SITUATION” is that “ALL SEATS ARE NOW OCCUPIED”. Another service is suggested with a “VACANT SEATS EXIST IN SECOND STORE 100m AHEAD, RESERVE?”. A further embodiment is depicted in Figures 42a, 42b and 45, as well as paragraphs 0462, 0463 and 0464 of D1 where the server 19 determines that a movie is quickly selling out and sends the message “that movie is popular and all seats will be occupied soon” to the user terminal 1 to suggest enjoying the movie when a rate of change increases. D1 also teaches the option of playing the movie at a larger theatre with a larger seating capacity to help accommodate customers. Furthermore at paragraph 0464 it is taught that this movie reservation system is also applicable to live events such as concerts.

[47] The PR letter at pages 13-14 asserted that D1 discloses all of the steps of representative claim 1. Specifically, the PR letter referenced embodiments of D1 as disclosing:

- the recited step of “determining or estimating that the first resource will not be available or is unlikely to be available when the request is anticipated to be serviced”, referencing D1 paras [0444]-[0466], based on “how many ticket requests there are in the queue”, referencing D1 paras [0444]-[0466], specifically para [0445]; and
- the recited subsequent step of “transmitting ... a message over a network to the user terminal the message indicating that the first resource will not be available or is unlikely to be available when the request is anticipated to be serviced” , referencing D1 Figure 1 and para [0462].

[48] The PR letter concluded that D1 did not explicitly disclose the use of “historical queue abandonment data” in “determining or estimating ... whether the first resource will be available when the request is anticipated to be serviced” as recited by the claim.

[49] Although the submissions in the RPR were made with respect to the second set of proposed claims, at least some of the submissions regarding the inventiveness of the second set of proposed claims are equally applicable to the claims on file.

[50] Specifically, the Applicant asserted in the RPR at pages 3-5 that, unlike the claimed invention in which a prediction is made whether a ticket request will be serviced and then offers the user additional resources, D1 “discusses embodiments of the reservation system monitor queue length, the queue lengths are monitored to determine whether additional resources at the place of business taking reservations are required such as requiring more staff or a larger venue; NOT to predict resource unavailability and to proactively offer additional resources” (emphasis in the original).

[51] Furthermore, the Applicant argued in the RPR at page 5 that “[t]here is nothing in D1 that suggests the prediction of resource unavailability and the proactive offering of additional resources.”

[52] To assess these Applicant’s submissions, I will review the specific embodiment of D1 referenced in the PR letter. D1 paras [0444]-[0466] disclose an embodiment where a reservation server transmits information, such as the movie information or the “reservation situation” (defined in D1 at para [0106], for example, the number of tickets available) to a user terminal (D1 paras [0439]-[0442]). D1 further discloses the response of a store/facility to an increase in the number of customers/reservations (D1 paras [0443]-[0444]). Various thresholds are defined (D1 para [0445]) and examples of store responses to increasing numbers of customers/reservations based on the defined thresholds are described (D1 paras

[0446]-[0463]). For example, D1 discloses for high rates of reservations, the system may suggest to the movie theater to put the movie into an all-night screening (D1 para [0453]).

[53] In the particular example described in D1 and referenced in the PR letter, movie theaters can advertise services to users based on the rates of increase in customers/reservations (D1 para [0455]). As described in D1 at para [0462], a movie theater experiences a rate of increase in customers/reservations exceeding the highest predefined threshold, Y; in this situation, the “movie theater transmits the fact of ‘that movie is popular and all seats will be occupied soon’ to the user terminal 1 to suggest enjoying the movie.” The paragraph further states that the rate of increase may suggest to the movie theater that it should shift the movie to a theater with a larger seating capacity.

[54] In my view, although such an embodiment for advertising tickets to users discloses a reservation system that monitors the number of reservations and compares that number to a threshold, this particular embodiment of D1 does not disclose either requests for reservations in a queue waiting to be serviced or predicting resource unavailability for queued requests.

[55] Also, considering D1 more generally, the document discloses various embodiments where alternative event information is transmitted to users if no resources are available (for example, D1 para [0156]) or alternative activities are transmitted to users while the user waits for a first reserved event to begin or after the original reserved event ends (for example, D1 Figs 20, 22, 23, 25, 27, 29, 32, 35, and 36 and the corresponding descriptions). In my view, D1 generally does not disclose either reservations in a queue waiting to be serviced or predicting resource unavailability.

[56] In light of the above, I am persuaded by the Applicant’s submissions that D1 does not disclose, at least, the recited steps of the representative claim 1:

- “determining or estimating that the first resource will not be available or is unlikely to be available when the request is anticipated to be serviced”, and
- “transmitting ... a message over a network to the user terminal the message indicating that the first resource will not be available or is unlikely to be available when the request is anticipated to be serviced”.

Step 4: Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

[57] The PR letter at pages 14-15 looked to the CGK and D2 to bridge the difference identified between the claimed invention and the prior art document D1, specifically the difference of using historical queue abandonment data for the prediction of resource unavailability of queued resource requests. Given that this review has identified a new set of differences between D1 and the claimed invention, I will re-assess whether this new set of differences constitute steps which would have been obvious to the person skilled in the art.

[58] Regarding the CGK, there is nothing in the CGK as identified above as encompassing either predicting resource unavailability of reservations in a queue waiting to be serviced or transmitting a message to a user indicating resource unavailability when the request for the resource is anticipated to be serviced.

[59] Regarding D2, the PR letter at page 13 described the general relevance of D2 as follows:

Cuhls et al. (D2) disclose systems and methods for queueing order notification. In paragraph 0002 of D2 teaches that the queueing order notification can be used where human queues can be observed, such as “restaurants, government service providers, amusement and theme parks, physicians and dentist offices and the like ... “. As best depicted in figure 1B and paragraph 0014 of D2, a customer contacts an internet service provider host 102 with personal data processing devices such as a cellular telephone 112 or computer 116 and wireless handheld messaging/email device 118. Paragraph 0016 teaches that a web interface may be provided to patrons. While the customer is in the queue, the customer is notified of their position in the queue. As taught in paragraphs 0024, 0025, 0026 and 0027 and figure 2B of D2, a customer’s position is determined at step 220. Step 224 determines of the customer can be accommodated. Step 226 is a notification. Step 228 is a response timer for the customer to respond. If the customer responds at step 230 and terminates at step 244. If the customer does not respond the customer is put at the end of the queue at step 232. Customers can monitor their progress through the queue at steps 236-240. Step 236 in figure 2C provides feedback to the customer to “update the patron’s position as the queue advances and provides notifications with respect to the patron’s order in the queue[”]. At paragraph 0029 D2 teaches that “historical data” can be used to adjust queue estimates. D2 also teaches that those of ordinary skill would recognize that the queue information may “be selectable by the patron” and options could include time remaining, queue position or additional information.

[60] The Applicant submitted in the RPR at page 5 that “[t]here is nothing in D1 that suggests

the prediction of resource unavailability and the proactive offering of additional resources. D2 does not remedy the deficiencies of D1 as there is nothing in D2 that suggests the prediction of resource unavailability and the proactive offering of additional resources.”

[61] The description of the invention in D2 at para [0010] summarizes the scope of the invention:

Mechanisms for providing patrons waiting in a service provider’s queue with information as to their status in the queue are provided. While a patron is in the queue, at time intervals specified which may be user selectable, an estimate of the time remaining is calculated based on the patron’s current position in the queue. The estimated time and/or other queue order information may be transmitted to the patron using the patron’s own device, such as a personal digital assistant (PDA), cell phone, etc. When the patron reaches the head of the queue, a notification may be similarly transmitted. Additionally, the party may be provided with the option to sacrifice its position in the queue for a later position.

[62] In my view, although D2 does disclose means for calculating and transmitting to a user the estimated time remaining in a service provider’s queue for the user’s request, D2 does not disclose either predicting resource unavailability of reservations in a queue waiting to be serviced or transmitting a message to a user indicating resource unavailability when the request for the resource is anticipated to be serviced.

[63] In summary, D1, D2 and the CGK, either alone or in combination, does not disclose, at least, the recited steps of the representative claim 1:

- “determining or estimating that the first resource will not be available or is unlikely to be available when the request is anticipated to be serviced”, and
- “transmitting ... a message over a network to the user terminal the message indicating that the first resource will not be available or is unlikely to be available when the request is anticipated to be serviced”.

Conclusion on obviousness

[64] In light of my obviousness analysis above, representative claim 1 on file would not have been obvious and complies with section 28.3 of the *Patent Act*.

[65] Independent claims 8 and 14 on file would also not have been obvious as they recite the same inventive elements of predicting resource unavailability of reservations in a queue waiting to be serviced and transmitting a message to a user indicating resource

unavailability when the request for the resource is anticipated to be serviced. Therefore in my view, independent claims 8 and 14 one file also comply with section 28.3 of the *Patent Act*.

[66] The dependent claims on file would also not have been obvious as they depend on non-obvious claims 1, 8, and 14. Therefore, in my view, the dependent claims on file also comply with section 28.3 of the *Patent Act*.

Proposed claims

[67] Given that claims 1-19 on file are not directed to patentable subject matter, I will consider the latest proposed claims, that is, the second set of proposed claims 1-27, and whether they constitute amendments necessary for compliance with the *Patent Act* and *Patent Rules*.

[68] The Applicant in the RPR at pages 1-2 discussed the proposed amendments, wherein proposed claims 1-27 are amended from the first set of proposed claims 1-15:

Independent claim 1 has been amended to recite that the access management system comprises multiple processors and load balancers, that the calculating, identifying, determining or estimating, and accessing, dynamically identifying and transmitting steps are performed at the access management system and that the load balancers are used to redirect processes performed by one or more processors to one or more other processors to balance processing load and enable effective queue management...New claims 6-9 have been added...Independent claim 6 has been renumbered as independent claim 10 and amended in a manner similar to independent claim 1. Claims 7 to 10 have been renumbered as claims 11 to 14, respectively, and dependencies have been adjusted. New claims 15 to 18 have been added and are similar in scope to new claims 6 to 9. Independent claim 11 has been renumbered as independent claim 19 and amended in a manner similar to independent claim 1. Claims 12 to 15 have been renumbered as claims 20 to 23, respectively, and dependencies have been adjusted. New claims 24 to 27 have been added and are similar in scope to new claims 6 to 8.

[69] In comparison to claim 1 on file, I note the following proposed amendments, wherein the underlined text represents new text and the strike-through text represents deleted text:

1. A computer-implemented method ~~of~~ for effective queue management by dynamically providing queue messaging to additional resource requesters information, the method comprising:

receiving, at an access management system comprising multiple processors and load

balancers, a first communication from an electronic device associated with a user, the first communication including first data representing a first request to associate the user with a first access right to a first resource;

calculating, at the access management system, a position in a first queue for storing an identifier code in response to the received first communication, the identifier code corresponding to the first request, the first queue storing a plurality of identifier codes, each of the plurality of identifier codes corresponding to an additional request to associate an additional user with an additional access right to the first resource;

identifying, at the access management system, a number of positions in the first queue before the identifier code is to be processed, wherein processing the identifier code corresponds to enabling association of the user with the first access right;

~~determining or estimating by a computer system a position in a queue of a request associated with a first requester and a first resource, wherein: the request was received from a user terminal associated with the first requester, the first resource is an event ticket, and the queue is configured to queue at least requests for event tickets received from user terminals;~~

~~determining or estimating by the computer system, at the access management system, whether the first resource will be available when the request identifier code is anticipated to be serviced, based at least in part on: processed;~~

~~historical queue abandonment data with respect to ticket requests;~~

~~and~~

~~how many ticket requests there are in the queue; and~~

at least partly in response to estimating or determining or estimating, at the access management system, that the first resource will not be available or is unlikely to be available when ~~the request is anticipated to be serviced~~, identifier code is processed:

~~transmitting by the computer system a message over a network to the user terminal, the message indicating that the first resource will not be available or is unlikely to be available when the request is anticipated to be serviced. accessing additional resource data from one or more data stores, the additional resource data representing a plurality of additional resources;~~

dynamically identifying a set of additional resources from the plurality of additional resources; and

transmitting a second communication to the electronic device, the second communication including second data representing the identified set of additional resources, the transmission of the second communication enabling display of the set of additional resources on the electronic device; and

using the load balancers to redirect processes performed by one or more processors to one or more other processors to balance processing load and enable effective queue management.

[70] I consider proposed independent claim 1 as the representative claim of the second set of proposed claims 1-27, as it recites similar features to the proposed independent claims 10 and 19.

[71] Furthermore, I consider that all method steps of the representative proposed claim 1 are essential. Although the description refers to the use of load balancers as optional (see for example the instant description at paras [0076], [0077], and [0078]), the person skilled in the art, as described above, would understand that the claim language does not indicate that the use of load balancers is optional, a preferred embodiment or one of a list of alternatives.

[72] Having identified the essential claim elements, I will assess patentable subject matter according to *PN2020-04*, considering whether the subject matter of the representative claim forms a single actual invention having physical existence or a discernible physical effect or change and is related to the manual or productive arts.

[73] Representative proposed claim 1 is directed to computer-implemented steps for receiving a request for a resource, calculating a position of the request in a queue of requests, identifying the number of requests ahead of the request in the queue, determining whether the resource will be available when the request is processed, and in response to that determining, accessing data and identifying additional resources, and transmitting a communication identifying the additional resources.

[74] Similar to the claims on the file, these essential steps of the representative proposed claim 1 cooperate together to determine whether a resource will be available by the time the request for that resource is processed; if the resource will be unavailable, additional resources are

communicated to the requester. Together, these steps represent a computer implementation of an abstract idea or scheme to offer additional resources to users if their request for a resource will be unavailable by the time the request is to be processed.

[75] Similar to the analysis of the claims on file, in my view, these steps represent typical computer-implemented data processing steps. The person skilled in the art would understand from the specification and their CGK that these functions utilize a generic computer or computers and are carried out in a conventional manner. The specification does not disclose any improvements to the functioning of a generic computer(s), but instead the focus of the instant application is on the abstract idea or scheme as claimed.

[76] Representative proposed claim 1 also recites a computer-implemented step of using load balancers to enable effective queue management. The Applicant submitted in the RPR at page 3, and further elaborated at the oral hearing, the following:

As will be appreciated by the [Patent Appeal Board], independent claim 1 now requires that the access management system comprises multiple processors and load balancers and that the load balancers are used to redirect processes performed by the one or more processors to one or more other processors to balance processing load and enable effective queue management. This claimed subject matter is clearly more than an abstract scheme and does in fact have physical existence that manifests a physical effect or change.

In queue management systems, especially for example in ticketing systems for concert, sporting and other high profile events, the demand for ticket resources can be significant. This significant demand, often results in the volume of ticket resource requests being extremely high, placing strain on processing resources. This volume of ticket resource requests can be exasperated by bots employed by ticket scalpers and brokers to scrape tickets for events and by coordinated attacks on service to tie up computing and communication resources. By providing load balancers, processing resources can be distributed to allow queue management to continue effectively even in the event of processor failure. Balancing processing load in this environment clearly addresses a computer problem.

[77] The Applicant's submissions argue that the use of load balancers represents non-generic or atypical computer functions for queue management of requests for resources where demand for resources is high.

[78] The "computer" in the context of this particular instant application relates to a system for processing requests for resources or a transaction processing system. The technical architecture of the system is overviewed in Figure 1 and is generally described in the

instant description at paras [0076]-[0092]. The instant description at para [0084] details the technical aspects regarding the use of load balancing:

[0084] The use of load balancers and multiple ticket sales processors can enable the sale/auction to continue, potentially with little or no performance impact, even if a system component (e.g., a processor 134) fails. For example, if a sales processor fails, processes that were performed by the failed processor are optionally directed via the load balancer to another sales processor. A session cluster system 136 includes an optional load balancer 138 and a plurality of processors 140 and is used to manage sessions.

- [79] The instant application, including these references, does not refer to any problems or challenges in the implementation of effective queue management through the use of load balancers beyond what would be required from a person skilled in the art with their CGK. Indeed, as identified in the CGK above, knowledge of the use of load balancers in transactions processing systems is CGK, as evidenced by D3.
- [80] In my view, the use of load balancers in the described system for queue management represent typical and well-known computer-implemented components of a transaction processing system. Thus, the “computer” in the context of a system for processing requests for resources as claimed is being used in a well-known manner.
- [81] According to *PN2020-04*, “[i]f a computer is merely used in a well-known manner, the use of the computer will not be sufficient to render the disembodied idea, scientific principle or abstract theorem patentable subject-matter and outside the prohibition under subsection 27(8) of the *Patent Act*.” As explained in *Amazon* (paras 61-63, 66, 69), a computer cannot be used to give an abstract idea a practical application satisfying the physicality requirement implicit in the definition of invention in section 2 of the *Patent Act* simply by programming the idea into the computer by means of an algorithm.
- [82] In light of the above, in my view, the abstract scheme to offer additional resources to users if their request for a resource will be unavailable by the time the request is to be processed has no physical existence itself and does not manifest a physical effect or change. The computer does not form a single actual invention with the abstract scheme and does not render the scheme patentable subject matter.
- [83] Given this assessment, it is my view that second set of proposed claims 1-27 is not directed to patentable subject matter and is prohibited under subsection 27(8) of the *Patent Act* and falls outside the definition of “invention” in section 2 of the *Patent Act*.

CONCLUSIONS

[84] In light of my analysis, I conclude that claims 1-19 on file are not directed to patentable subject matter, prohibited under subsection 27(8) of the *Patent Act* and falls outside the definition of “invention” in section 2 of the *Patent Act*.

[85] I also conclude that the second set of proposed claims is not considered a necessary amendment under subsection 86(11) of the *Patent Rules*.

RECOMMENDATION OF THE BOARD

[86] In view of the above, I recommend that the application be refused on the basis that claims 1-19 on file are not directed to patentable subject matter, prohibited under subsection 27(8) of the *Patent Act* and falls outside the definition of “invention” in section 2 of the *Patent Act*.

Lewis Robart

Member

DECISION OF THE COMMISSIONER

[87] I concur with the findings of the Board and its recommendation to refuse the application on the basis that the claims on file are not directed to patentable subject matter, prohibited under subsection 27(8) of the *Patent Act* and falls outside the definition of “invention” in section 2 of the *Patent Act*.

[88] Accordingly, I refuse to grant a patent for this application. Under section 41 of the *Patent Act*, the Applicant has six months to appeal my decision to the Federal Court of Canada.

Virginie Ethier
Assistant Commissioner of Patents

Dated at Gatineau, Quebec

this 23rd day of July, 2021