

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MASABI LTD.,
Petitioner,

v.

BYTEMARK, INC.,
Patent Owner.

Case IPR2017-01449
Patent 8,494,967 B2

Before JOSIAH C. COCKS, NEIL T. POWELL, and
BARRY L. GROSSMAN, *Administrative Patent Judges*.

GROSSMAN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Incorporating Decision on
Patent Owner's Motion to Exclude Evidence, and
Joint Motion to Withdraw Patent Owner's
Motion to Amend and Substitute Motion to Amend
37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Masabi Ltd. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–6, 17–23, and 34 of U.S. Patent No. 8,494,967 B2 (Ex. 1001, “the ’967 patent”). Bytemark, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”).

The Petition challenged the patentability of each of claims 1–6, 17–23, and 34 as anticipated by each of Terrell, Cruz, or Dutta based on 35 U.S.C. § 102. *See* Pet. 14. We instituted an *inter partes* review based solely on whether claims 1, 3–6, 17, 18, 20–23, and 34 are anticipated by Terrell. *See* Paper 10 (“Dec. Inst.”), 31. We did not institute a review on whether claims 2 and 19 are anticipated by Terrell. *Id.* We also did not institute a review on whether claims 1–6, 17–23, and 34 are anticipated by each of Cruz or Dutta. *Id.* at 33.

Patent Owner filed a Response to the Petition based on the claims and ground for which trial was instituted. Paper 19 (PO Resp.”). Following the Supreme Court decision in *SAS Inst., Inc. v. Iancu*, 2018 WL 1914661, at *10 (U.S. Apr. 24, 2018), we modified our institution decision to institute trial on all of the challenged claims and all of the grounds presented in the Petition. Paper 20. Thus, we added to the trial the issues of whether claims 2 and 19 are anticipated by Terrell, and whether claims 1–6, 17–23, and 34 are anticipated by Cruz or Dutta. Based on the modified institution decision, we authorized supplemental briefing. Paper 21. Patent Owner filed a Supplemental Response (Paper 22, “Suppl. PO Resp.”) directed to the newly-added claims and grounds in this proceeding.

Petitioner filed a single Reply, addressing both Patent Owner's Response and Patent Owner's Supplemental Response. Paper 25 ("Reply"). Petitioner's Reply also addressed the preliminary findings made by the Board in the Decision to Institute concerning the added claims and grounds. *See* Paper 21, 3–4.

Petitioner submitted 24 exhibits (Exs. 1001–1024). Petitioner relies, in part, on the Declaration testimony of Dr. Sigurd Meldal. Ex. 1004, 1018, 1019.

Patent Owner submitted 11 exhibits (Exs. 2001–2011). Patent Owner relies, in part, on the Declaration testimony of Dr. Oded Gottesman. Ex. 2001, 2002, 2005, 2009, 2010.

Patent Owner filed a Motion to Amend (Paper 18) and a Substitute Motion to Amend (Paper 23). Petitioner filed an Opposition to the Motion to Amend. Paper 26. Subsequently, the parties filed a "Stipulated Joint Motion to Withdraw Patent Owner's Motion to Amend and Substitute Motion to Amend." Paper 27.¹

Patent Owner filed a Motion to Exclude Evidence. Paper 32 ("Mot. Excl."). Petitioner filed a Response to the Motion to Exclude. Paper 34 (Resp. Mot. Excl.).

A hearing was held August 22, 2018. Paper 37 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. We enter this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

Petitioner has the burden of proving unpatentability of a claim by a preponderance of the evidence. 35 U.S.C. § 316(e).

¹ The parties jointly request that Papers 18, 23, and 26, and associated exhibits 1019–1024, 2008, and 2010 be withdrawn from consideration.

Based on the findings and conclusions below, we determine that Petitioner has proven by a preponderance of the evidence that claims 1, 3–6, 17, 18, 20–23, and 34 are anticipated by Terrell and, thus, are unpatentable. We determine, however, that Petitioner has not established by a preponderance of the evidence that claims 2 and 19 are anticipated by Terrell.

We also determine that Petitioner has not proven by a preponderance of the evidence that the challenged claims are anticipated by either Cruz or Dutta.

We deny Patent Owner’s Motion to Exclude Evidence.

We grant the parties’ Stipulated Joint Motion to Withdraw Patent Owner’s Motion to Amend and Substitute Motion to Amend.

B. Related Matters

The parties identify the following federal district court cases involving the ’967 patent: *Bytemark, Inc., V. Masabi Ltd.*, Case No. 2:16-cv-00543 (E.D. Tex. filed May 20, 2016); *Bytemark, Inc. v. Xerox Corp. et al*, Civ. No.1:17-cv-01803-PGG (SDNY); and *Bytemark Inc. v. Unwire APS and Unwire US, Inc.*, Case No. 1:17-cv-10124 (SDNY). Pet. 1; Paper 17. The ’967 patent also is the subject of Covered Business Method review CBM2018-00011. Paper 17.

U.S Patent No. 9,239,993 (the “’993 patent”) is based on an application that is a continuation-in-part of the application that matured into the ’967 patent. The ’993 patent also is asserted in each of the district court cases identified above. The ’993 patent is the subject of CBM2018-00018. *Id.*

C. The Asserted Grounds

Petitioner challenges the patentability of each of claims 1–6, 17–23, and 34 as anticipated by each of Terrell², Cruz³, or Dutta⁴ based on 35 U.S.C. § 102. *See* Pet. 15. Petitioner also states that Grounds 1, 2, and 3 “include arguments based on obviousness.” *Id.* at 65. Petitioner, however, did not argue obviousness in the Petition. Accordingly, there are no obvious grounds.

II. ANALYSIS

A. The '967 Patent

We make the following findings concerning the disclosure of the '967 patent.

The '967 patent discloses a system and method for verifying electronic tickets. The system and method use a “visual object” that is readable by a person to verify the authenticity of the ticket. Ex. 1001, Abstract. According to the disclosure, using such a visual object removes the need to use a bar-code scanner on an LCD display of a cell phone or other device and speeds up the rate at which ticket takers can verify ticket holders. *Id.*

As disclosed in the '967 patent,

Conventional electronic tickets display a barcode or QR code on a user's telephone, typically a cellphone or other portable

² PCT Appl. Publication No. 2009/141614 A1, Nov. 26, 2009, Ex. 1010 (“Terrell”).

³ U.S. Appl. Publication No. 2004/0030658 A1, Feb. 12, 2004, Ex. 1011 (“Cruz”).

⁴ U.S. Pat. 7,315,944 B2, Jan. 1, 2008, Ex. 1012 (“Dutta”).

wireless device with a display screen. The problem with this approach is that a barcode scanner has to be used by the ticket taker. Barcode scanners are not highly compatible with LCD screen displays of barcodes. The amount of time that it takes to process an electronic ticket is greater than that of a paper ticket.

Id. at 2:12–19. To solve this problem, a randomly selected validation symbol that a human can readily recognize is sent to the ticket holder’s cell phone or other electronic device. Examples of such symbols include a blue square (Ex. 1001, 3:25–26), a sailboat (*id.*, Fig. 5), or any other human recognizable image (*id.*, 3:25–35; 2:30–33). The ticket holder shows the device with the displayed symbol to a human ticket taker who can confirm quickly, without using a bar-code scanner or similar device, that the proper validating symbol for the ticketed event is displayed. The ticket holder is then admitted to enter the event.

Recited in all the challenged claims, and part of the process of verifying or validating that the request is from the purchaser, or authorized user, of the ticket, is the use of a “token.” When the user purchases a ticket, typically from an on-line website, the website sends to the user’s mobile phone, computer, or other device a unique number or other electronic identifier, referred to as a “token.” *Id.* at 2:45–47. In addition to being stored on the user’s device, the token also is stored in the ticketing database. *Id.* at 2:47–48. Alternatively, the token is generated randomly by the ticket buyer’s mobile computing device and then transmitted to, and stored on, the ticket seller’s system server. In either embodiment, a copy of the token is stored on both the buyer’s and seller’s systems.

At this point in the process, the ticket buyer has purchased a ticket, but does *not* have a ticket usable for entry to the event.

When the time comes to present the ticket, the venue selects what visual indicator will be used as the designated validation visual object. *Id.* at 2:48–50. Thus, counterfeit tickets cannot be prepared in advance of the event because counterfeiters will not know the visual indicator that will be used. *Id.* at 2:66–3:11.

In use:

At the entrance [to the ticketed event], customers are requested to operate an application on their devices. This application fetches the stored ticket token [on the ticket buyer's device] and transmits that token to the [ticket seller's on-line] system, preferably over a secure data channel. The [ticket seller's] database looks up the token to check that the token is valid for the upcoming show. If the token is valid, then the system transmits back to the device a ticket payload. The ticket payload contains computer code that, when operated, displays the selected validating visual object.

Id. at 3:65–4:6.

The ticket taker knows what the validating visual object is for the specific event, and simply looks to see that the user's device is displaying the correct visual object. *Id.* at 2:63–65. No scanning or bar code reading is required. *Id.* at 2:25–26 (“the verification is determined by a larger visual object that a human can perceive without a machine scanning it.”). Barcodes and similar codes, like QR code, are not validating “visual objects” because a person looking at them cannot tell one apart from another.

B. Representative Claim

Petitioner challenges claims 1–6, 17–23, and 34. Of the challenged claims, claims 1, 17, and 18 are independent claims. Independent claim 1 is representative and is reproduced below.

1. A method by a server system for obtaining visual validation of the possession of a purchased electronic ticket on a user's computer device for presentation to a ticket taker comprising:

receiving from the user's computer device a request to verify purchase of a previously purchased electronic ticket and to obtain a visual validation display object that confirms that the user possesses the previously purchased electronic ticket for utilization of a service monitored by the ticket taker, the visual validation display object configured to be readily recognizable visually by the ticket taker;

receiving from the user's computer device a token associated with the received request;

determining whether a token associated with the purchased electronic ticket has been stored in a data record associated with the received request, and if it has, whether the received token is valid; and

in dependence on the determination that the received token is valid, causing an activation of the purchased electronic ticket by transmitting to the user's computer device a data file comprising the visual validation display object that causes upon visual recognition by the ticket taker, the user to be permitted to utilize the service monitored by the ticket taker.

Challenged dependent claims 2–6 depend directly or indirectly from claim 1.

Independent claim 17 is directed to a “non-transitory computer readable data storage medium containing computer program code that when loaded and executed by a computer system causes the computer system to perform the recited method steps for obtaining visual validation.” It is substantively similar to claims 1 and 18. *See* Pet. 24–27; Ex. 1004 ¶ 43; *see also e.g.*, Prelim. Resp. 19 (arguing claims 1, 17, and 18 collectively).

Independent claim 18 is directed to a system for obtaining visual validation of an electronic ticket using computers “configured to” perform

the recited method steps. It is substantively similar to claims 1 and 17. *See* Pet. 24–27; Ex. 1004 ¶ 43; *see also e.g.*, PO. Resp. 31 (arguing claims 1, 17, and 18 collectively; “Terrell does not anticipate claims 1, 17, or 18 because Terrell fails to teach claim limitations [c], [d] and [e]”).

Challenged dependent claims 19–23 depend directly or indirectly from claim 18. Dependent claims 19–23 correspond to, and repeat, the claimed subject matter in dependent claims 2–6, respectively. *Compare* Ex. 1001, 14:28–60 (claims 2–6) *with id.* 16:41–17:1–9 (claims 19–23); *see also* Ex. 1004 ¶¶ 44–48 (Declaration of Dr. Meldal, Patent Owner’s expert witness, opining collectively on each pair of claims 2 and 19, 3 and 20, 4 and 21, 5 and 22, and 6 and 23).

Challenged dependent claim 34 also depends from claim 18.

C. Claim Construction

In this *inter partes* review, we generally construe claims by applying the broadest reasonable interpretation in light of the specification. 37 C.F.R. § 42.100(b) (2016).⁵ “Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016). The correct inquiry

⁵ The claim construction standard to be employed in an *inter partes* review recently has changed. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Nov. 13, 2018) (to be codified at 37 C.F.R. pt. 42). That new standard, however, applies only to proceedings in which the petition is filed on or after November 13, 2018. The Petition in this proceeding was filed on May 18, 2017, and we apply the broadest reasonable interpretation standard that was in effect at that time.

in giving a claim term its broadest reasonable interpretation in light of the specification is “an interpretation that corresponds with what and how the inventor describes his invention in the specification, *i.e.*, an interpretation that is ‘consistent with the specification.’” *In re Smith Int’l, Inc.*, 871 F.3d 1375, 1382–83 (Fed. Cir. 2017). The broadest *reasonable* interpretation differs from the “broadest *possible* interpretation. *Id.* at 1383. Any special definitions for claim terms must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). This focus on the Specification helps to avoid what has been called “the curse of . . . claims, divorced from the written description.” *Retractable Techns., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305, 1311 (Fed. Cir. 2011) (Plager, Circuit Judge, concurring).

Proper claim construction requires interpretation of the entire claim in context, not a single element in isolation. *Hockerson-Halberstadt, Inc. v. Converse Inc.*, 183 F.3d 1369, 1374 (Fed. Cir. 1999). While certain terms may be at the center of the claim construction debate, the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms. *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003).

Only terms that are in controversy need to be construed expressly, and then only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

We are careful, however, not to cross that “fine line” that exists between properly construing a claim in light of the specification and improperly importing into the claim a limitation from the specification. *Comark Commc’ns., Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998) (“We recognize that there is sometimes a fine line between reading a claim in light of the specification, and reading a limitation into the claim from the specification.”).

Petitioner mentions a claim construction in the related case of *Bytemark V. Masabi*, pending in the Eastern District of Texas. Reply 4. Patent Owner also refers to this District Court’s claim construction. P.O. Resp. 8. Neither party, however, filed in this IPR proceeding a copy of the District Court’s Claim Construction Memorandum and Order, Docket Entry Document 81, filed June 20, 2017. We have considered the District Court’s Memorandum and Order, refer to it in our analysis below, and, accordingly, enter the Memorandum and Order in this IPR proceeding as Exhibit 3001.⁶ The District Court construed the claims under the *Phillips* claim construction standard. *See* Ex. 3001, 1 (citing “*Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005)” (en banc)).

Because claim construction is based on how a term would be understood by a person of ordinary skill in the art, we first determine the ordinary skill level.

⁶ *See Knowles Elecs. LLC v. Iancu*, 886 F.3d 1369, 1376 (Fed. Cir. 2018) (noting that, in some circumstances, previous judicial interpretations of a disputed claim term may be relevant to the Patent Trial and Appeal Board’s later construction of that same disputed term (citing *Power Integrations, Inc. v. Lee*, 797 F.3d 1318, 1327 (Fed. Cir. 2015))).

1. Level of Ordinary Skill

The level of skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

Factors pertinent to a determination of the level of ordinary skill in the art include: (1) educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology, and (6) educational level of workers active in the field. *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696–697 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed.Cir.1983)). Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case. *Id.* Moreover, these factors are not exhaustive but are merely a guide to determining the level of ordinary skill in the art. *Daiichi Sankyo Co. Ltd, Inc. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007). In determining a level of ordinary skill, we also may look to the prior art, which may reflect an appropriate skill level. *Okajima*, 261 F.3d at 1355. Additionally, the Supreme Court informs us that “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

Neither party presents a detailed evidentiary showing of factors typically considered in determining the level of ordinary skill.

Petitioner asserts that a person of ordinary skill in the relevant technology would have had “at least a Bachelor of Science Degree in Computer Science, Electrical Engineering, or similar educational

background, or equivalent on-the job training including approximately five years of experience in mobile ticketing application development.” Pet. 23. Petitioner does not cite any evidence in support of this proposed level of skill.

Patent Owner “agrees with Petitioner regarding the level of ordinary skill in the art.” PO Resp. 4 (citing Ex. 2005 ¶ 7). Dr. Gottesman states that “I agree with Petitioner regarding the level of ordinary skill in the art.” Ex. 2005 ¶ 7 (citing “Ex. 1004, p. 9”). Exhibit 1004 is the Declaration testimony of Petitioner’s expert, Dr. Meldal. Dr. Gottesman does not state *why* he agrees with Dr. Meldal. Moreover, neither page 9 nor paragraph 9 of the cited Declaration deal with the level of skill in the art. Thus, the experts agree, but neither the Petition⁷ nor Dr. Meldal explain why or how they reached the stated conclusions.

Based on the record before us, considering type of problems encountered in the art; prior art solutions to those problems; and the sophistication of the technology as reflected in prior art, we determine that a person of ordinary skill in the relevant technology would have had at least Bachelor’s degree in computer science, electrical engineering, software development, or a similar discipline, and work experience in these areas sufficient to understand electronic ticketing and verification or validation technologies.

⁷ The Petition does not cite to the Declaration testimony of Dr. Meldal. *See Fidelity National Information Services, Inc. v. DataTreasury Corp.*, IPR2014-00489, Paper 9, slip op. at 9–10 (PTAB Aug. 13, 2014) (“We, therefore, decline to consider information presented in a supporting declaration, but not discussed sufficiently in a petition”).

2. “*Visual validation display object*”

Petitioner proposes a specific construction only for the phrase “visual validation display object.” Pet. 22–23. This phrase appears extensively in the challenged claims. *See e.g.* claim 1, Ex. 1001, 14:8, 11–12, 23–24. This phrase does *not* appear in the written description.

According to Petitioner, the broadest reasonable construction of the phrase “visual validation display object” is “any display element that met the specification’s own criterion – ‘any object that is readily recognizable from human observation.’” *Id.* at 23 (citing Ex. 1004 ¶ 50). Dr. Meldal states his opinion that this phrase means “any ‘object that is readily recognizable from human observation.’” Ex. 1004 ¶ 50. He reaches this opinion without stating the underlying facts or data on which the opinion is based. *See* 37 C.F.R. § 42.65(a). This opinion is entitled to little or no weight. *Id.*

Petitioner relies on the written description’s disclosure of a similar phrase, “validating visual object,” to reach its proposed construction of the claim phrase “visual validation display object.” Pet. 22 (“The specification of the ’967 patent does not utilize or define the term ‘visual validation display object’ outside of the claim language. Instead, the specification of the ’967 refers to a ‘validating visual object.’” (citing Ex. 1001, 2:10–11)).

In its Reply, Petitioner “counter proposes” a modified construction, which is “a display object that is readily recognizable from human observation and provides an indication of a ticket’s validity”. Reply 7 (citing “Ex 1018 ¶¶ 33-35”). Exhibit 1018 is Dr. Meldal’s supplemental Declaration in support of Petitioner’s Reply. Paragraphs 34 and 35 are irrelevant to the construction of the term “visual validation display object.”

These two paragraphs discuss the construction of the term “token.”⁸ Paragraph 33 of Exhibit 1018 states that Dr. Meldal “read the Board’s decision to institute and have revised my proposed construction according to their guidance.” We find this candid but conclusory statement unpersuasive in determining the proper construction of the term “visual validation display object.” We give it no probative weight. The role of expert opinion testimony is for the expert to use his or her scientific, technical, or other specialized knowledge to help the trier of fact, here the Board, understand the evidence or determine a fact in issue. Fed. R. Evid. 702(a). It is the fact-finder who looks to the expert for guidance, not the reverse.

In our Decision to Institute this proceeding, we adopted the construction of the term “visual validation display object” proposed by Patent Owner in its Preliminary Response, which was “a display object that is readily recognizable from human observation and validates a ticket.” Dec. Inst. 12 (*see* Prelim. Resp. 5–6). Patent Owner now proposes a different claim construction.⁹

Patent Owner now submits that a “visual validation display object” should be defined as “a display object that is readily recognizable from human observation *that verifies the authenticity of a ticket and is reasonably secured so as to avoid piracy.*” P.O. Resp. 4 (emphasis added). Patent

⁸ We note that Paragraphs 24–32 of Ex. 1018 also discuss construction of the term “visual validation display object.” Petitioner has not cited to these paragraphs to support its argument. Accordingly, they are not considered. *See Fidelity National*, IPR2014-00489, Paper 9, slip op. at 9–10.

⁹ There is no rule that prevents Patent Owner from proposing a claim construction in its Response, under 37 C.F.R. § 42.120, different from the construction asserted in its Preliminary Response, under *id.* § 42.107.

Owner asserts that its revised construction includes “the more precise concept of “verification” instead of “validation.” *Id.* at 5. Patent Owner asserts that the term “validation” is “ambiguous” and thus needs clarification. *Id.* We note that Patent Owner uses the allegedly ambiguous word “valid,” “validation,” “validating,” or other forms of the word “valid” 127 times in the written description and claims of the ’967 patent.

According to Patent Owner, “validation” means declaring something “officially acceptable” or checking the “validity” of something. *Id.* (citing a website definition that has not been entered as evidence in this proceeding). *See* 37 C.F.R. § 42.63(a) (“Evidence consists of affidavits, transcripts of depositions, documents, and things. All evidence must be filed in the form of an exhibit.”). Because it is not evidence, we consider this definition as part of Patent Owner’s argument. Patent Owner argues that the term “validation” in the claims is used to mean checking validity or “verifying the authenticity of tickets.” P.O Resp. 5.

The end result of “validation” of a ticket using the “visual validation display object” is that the ticket taker determines, based on a visual inspection, whether the ticket is acceptable for entry to the event or service. If it is, entry is permitted; if it is not, entry is denied. There is no persuasive evidence that *validating* a ticket is substantively different from *verifying* the authenticity of a ticket, as now proposed by Patent Owner.

Patent Owner refers to numerous uses of the word “verify” in the Specification as support for its proposed claim construction. *Id.* at 6–7. The words “verify” and “validate,” or variants thereof, seem to be used interchangeably in the Specification. For example, the Specification refers to a “human perceptible *verifying* visual object.” Ex. 1001, Abstract; *see*

also, id. at 1:49–50 (stating Figure 3 shows a “Flow chart for displaying the *verifying* visual object”); *id.* at 10:1–4 (stating the option of a command that automatically deletes “the *verifying* visual object” from the ticket purchaser’s device to ensure that it cannot be reused or copied) (emphases added). The Specification also uses the phrase “validating visual object” to refer to the same element. *See e.g., id.* at 1:51, 52, 59–60 (stating Figures 4, 5, and 11, respectively, show a “*validating* visual object”); *id.* at 2:10–11 (stating the customer’s device is used to display the “*validating* visual object.”) (emphases added). Accordingly, there is no persuasive evidence to which we have been directed that establishes a substantive difference between a verified visual object and a validated visual object.

Patent Owner also proposes to add the phrase “and is reasonably secured so as to avoid piracy” to its asserted construction of the claim term “visual validation display object.” P.O. Resp. 4. Patent Owner does not cite any persuasive evidence to support this added phrase. We recognize that a basic objective of the ’967 patent is to prevent a “would-be pirate” from obtaining “the data file comprising the ticket payload” and distributing it to unauthorized persons or devices. Indeed, one of the criteria for what constitutes a validating visual object is one “that can be reasonably secured so as to avoid piracy,” which is the phrase Patent Owner wants to add to its proffered claim construction. *See Ex. 1001, 3:14–19.*

The preferred embodiments address the “threat model” of piracy in a number of specific ways. *See id.* at 5:25–6:59 (disclosing numerous alternatives to “deter[] piracy.” Some of these anti-piracy measures are included in dependent claims. *See e.g.,* claims 4 and 5 (reciting an additional “authorization key” and “encrypting” the display object using the

authorization key). These piracy deterrents, however, are not recited in challenged independent claims 1, 17, and 18.

We determine it would be error to construe the term “visual validation display object,” recited in independent claims 1, 17, and 18, to refer to or include any of the specifically disclosed anti-piracy methods or limitations. *See Phillips*, 415 F.3d at 1323 (“although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments”). Moreover, we find ambiguous and undefined in the Specification the proposed generic phrase “reasonably secured so as to avoid piracy.” Our objective is to construe the claim, not add ambiguity.

To construe the term “visual validation display object,” which is at issue, we look to the words of the claims themselves, the remainder of the Specification, the prosecution history, and probative extrinsic evidence.

a. Claims

Independent claims 1, 17, and 18 each use the term “visual validation display object.” *See, e.g.*, Ex. 1001, 14:8; 15:62; 16:21. The language of claim 1 is representative and will be discussed below.

The phrase “visual validation display object” appears three times in claim 1. First, claim 1 states that the claimed method includes the step of receiving from the ticket purchaser’s computing device “a request to *verify* purchase of a previously purchased electronic ticket” and “to obtain a visual validation display object” that confirms that the ticket purchaser “possesses the previously purchased electronic ticket.” Ex. 1001, 14:6–10 (emphasis added). Second, claim 1 states that “the visual validation display object [is] configured to be readily recognizable visually by the ticket taker.”

Id. at 14:12–14. Third, claim 1 states the step of transmitting to the user's computing device “a data file comprising the visual validation display object.” *Id.* at 14:23–25. When further activated, the “visual validation display object” can be recognized by the ticket taker.

Thus, as recited, the “visual validation display object” is something sent to the ticket purchaser’s device based on a request to verify a previous ticket purchase.

b. Specification

As noted above, the phrase used in the claims, “visual validation display object,” does *not* appear in the Specification. In construing this phrase, both parties rely of a similar phrase “validating visual object,” which is used in the Specification. *See* Pet. 22; P.O. Resp. 9.

The Specification describes a “validating visual object” in several different ways. The Specification discloses that a “validating visual object” is a “visual object that a human can perceive without a machine scanning it.” Ex. 1001 2:25–30. The Specification also discloses, however, that:

The criterion for what constitutes a validating visual object is one that is readily recognizable from human observation, is encapsulated in such a way as to be transmitted to the customer’s device with a minimum of network latency or download time, and that can be reasonably secured so as to avoid piracy.

Id. at 3:14–19. This is a far more comprehensive definition than simply an object that is readily recognizable from human observation.

The phrase used in the Specification, “validating visual object,” also is used in two claims in the ’967 patent, claims 11 and 28. These two claims are *not* challenged in this IPR proceeding, but nonetheless may be helpful in construing the phrase at issue, which is “visual validation display object.”

Claims 11 and 28 each recite both phrases, “validating visual object” and “visual validation display object.” Claims 11 and 28 are substantively similar. Claim 11 is reproduced below.

11. The method of claim 7 where the step of transmitting the *visual validation display object* is further comprised of: transmitting in a manner to cause the *visual validation display object* to be automatically displayed on a screen without the user having to input a command to cause the transmission of the *validating visual object*.

Ex. 1001, 15:17–22 (emphases added). The use of the two different phrases in a single claim suggests that the phrases have different meanings.

Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1119 (Fed. Cir. 2004) (“when an applicant uses different terms in a claim it is permissible to infer that he intended his choice of different terms to reflect a differentiation in the meaning of those terms.”); *see also, e.g., Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F.3d 1572, 1579 (Fed. Cir. 1996) (reversing lower court’s ruling that a “pusher assembly” and a “pusher bar” have the same meaning). This inference, however, may be rebutted. *Innova/Pure Water*, 381 F.3d at 1120.

Based on the Specification, the use of the two different phrases “validating visual object” and “visual validation display object” does not show that these different phrases have different meanings. As in *Innova/Pure Water*, “this is simply a case where the patentee used different words to express similar concepts even though it may be confusing drafting practice.” 381 F.3d at 1120 (determining that “the context does not show that ‘connected’ and ‘associated’ should be differentiated”).

The Specification also discloses that “the validating visual object that is transmitted can be computer code” (*id.* at 2:33–35), “a command that

specifies what the visual pattern should be” (*id.* at 2:37–38), or “video or image data transmitted directly from the server” (*id.* at 2:42–44). This disclosure is somewhat confusing, because it is not clear from the Specification how “computer code,” a computer “command,” or “data” transmitted from a server “is readily recognizable from human observation.” The Specification clarifies this confusing disclosure somewhat by explaining that in response to a request to verify a ticket, the ticket seller’s system transmits back to the ticket purchaser’s device “a ticket payload.” *Id.* at 4:4–6. The “ticket payload” contains computer code or data that, when operated, displays the validating visual object. *Id.*

The Specification also uses the term “data file” or “data object” to refer to the ticket payload. *Id.* at 5:18–19 (“the *data file* comprising the ticket payload”); *id.* at 2:54–56 (“download from the ticketing system a *data object* referred to herein as a ticket payload, which includes a program to run on the user's device”) (emphases added). The term “data file” appears in each of the challenged independent claims, 1, 17, and 18. *See e.g., id.* at 14:24. Thus, the data file includes the visual validation display object, but the visual validation display object is not visible until the ticket purchaser’s device executes a program, also included in the data file, to make it visible. Thus, we find that the “data file,” not the “visual validation display object,” includes computer code and commands.

The Specification also provides several examples of a “validating visual object,” such as “a color display,” an “animation,” and a “block letter.” *Id.* at 3:25–40.

c. Prosecution History

Petitioner summarizes the prosecution history and notes that the Examiner's reasons for allowing application claim 1 were that the claim as a whole was not disclosed in the cited references. Pet. 13; *see* Ex. 1003, 57–58. The parties do not direct us to other persuasive evidence in the prosecution history regarding construction of the term “visual validation display object.”

d. District Court Claim Construction

In the related case of *Bytemark V. Masabi*, pending in the Eastern District of Texas¹⁰, the Court construed the term “visual validation display object” in the '967 to mean “any object that is readily recognizable from human observation that can verify a ticket, or the code or commands that can generate such an object.” Ex. 3001, 11. We note that both Petitioner and Patent Owner asserted in the District Court significantly and substantively different claim constructions for the term “visual validation display object” than they assert in this proceeding. *See id.* at 7. We also are well-aware that the District Court does *not* use the broadest reasonable interpretation of the claims, which is the standard we apply in this proceeding.

The District Court, as did we, in our analysis above, recognized that the claims recite both a “data file” and a “visual validation display object.” Ex. 3001, 10. We agree with the District Court that the Specification is “explicitly clear” that visual validation display objects “present depictions that are readily perceptible to a human and do not include bar codes, QR codes, and the like.” *Id.* (citing “'967 Patent 3:12-23”).

¹⁰ The claims of the '967 patent challenged in the District Court are identical to the claims challenged in this IPR proceeding. *See* Ex. 3001, 7, n.4.

We find that the “data file” and “ticket payload” are different and distinct from the “visual validation display object,” as we discussed above. The “data file” is the code or command that includes a “ticket payload,” which includes a program to run on the ticket purchaser’s device. The ticket purchaser’s device executes the program embodied in the ticket payload, causing the visual validation display object to be displayed. Ex. 1001, 2:50–65; *see also, id.* at 4:5–6 (disclosing that “The ticket payload contains computer code that, when operated, displays the selected validating visual object.”). Thus, the “visual validation display object” itself does *not* include the code or commands. The separately claimed “data file” is the element that contains the code or commands. *See e.g.*, claim 1, Ex. 1001, 14:23–25 (“transmitting to the user’s computer device a data file comprising the visual validation display object”). We otherwise agree with the District Court’s claim construction.

*e. Conclusion Regarding Construction of
 “visual validation display object”*

For convenient reference, the chart below reproduces the various claim constructions of the term “visual validation display object” discussed above.

Petitioner	P.O. Prelim. Resp.	Dec. Inst.	P.O. Resp.	Dist. Ct.
“any object that is readily recognizable from human observation.” Pet. 23.	“a display object that is readily recognizable from human observation and validates a ticket.”	“a display object that is readily recognizable from human observation and validates a ticket.”	“a display object that is readily recognizable from human observation that verifies the	“any object that is readily recognizable from human observation that can verify a

	Prelim. Resp. 6.	Dec. Inst. 12 (same as P.O. Prelim. Resp.).	authenticity of a ticket and is reasonably secured so as to avoid piracy” P.O. Resp. 5.	ticket, or the code or commands that can generate such an object.” Ex. 3001, 11.
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Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.

Renishaw PLC v. Marposs Societa’ per Azioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (citations omitted).

Accordingly, based on the weight of the evidence and the analysis above, we determine that the broadest reasonable interpretation of the phrase “visual validation display object,” considering its ordinary and customary meaning to a person of ordinary skill in the relevant technology at the time of the invention, is “an object that is readily recognizable from human observation that can verify a ticket.” This construction stays true to the claim language and most naturally aligns with the patent’s description of the invention.

Consistent with the District Court’s construction we use the word “verify” rather than “validates,” which was used in our Decision to Institute. The words “verify” and “validate,” or variants thereof, are used interchangeably in the Specification. Moreover, there is no persuasive evidence to which we have been directed that establishes a substantive difference between a verified visual object and a validated visual object.

Also, consistent with the District Court’s construction, and the construction asserted by Petitioner, we refer to an “object,” rather than a “display object.” There is no persuasive evidence that the modifier “display” adds any structure or limitation that is not already included by the phrase “recognizable from human observation” used in our construction. Thus, it would be redundant and ambiguous to include the additional word “display.”

3. “Token”

Each of the challenged independent claims recites “receiving [or “receive,” for claim 18] from the user's computer device a token associated with the received request [to verify purchase of a previously purchased ticket].” *E.g.*, Ex. 1001, 14:14–15. The independent claims also recite additional steps or limitations involving the “token.” *Id.* at 14:16–20. The language of claim 1 is representative and will be discussed below.

Petitioner did not propose a construction for the word “token” in the Petition. In its Preliminary Response, Patent Owner proposed a construction for this term. Prelim. Resp. 6–13. Our Decision to institute construed this claim term to mean “electronic information that causes a validation of the purchased electronic ticket.” Dec. Inst. 14.

In its response, Patent Owner asserts that our construction is “unreasonably broad and does not capture the definition of a token.” P.O. Resp. 12. Patent Owner asserts that the term “token” should be construed to mean “electronic information *in the form of a publicly unknown identifier that has no meaningful value if breached and serves as a reference to other sensitive data to obfuscate and secure the sensitive data during transmission and that causes validation of the purchased electronic ticket.*” *Id.* (emphasis

added by Patent Owner to show the difference between the construction used in the Decision to Institute and Patent Owner's proposed construction.).

In arguing patentability over the references, Patent Owner also asserts that "the claims recite two (2) distinct tokens." *Id.* at 39. According to Patent Owner, the claims recite "two separate tokens each associated with two different things (the received request and the purchased electronic ticket stored in a data record associated with the received request)." *Id.* Patent Owner does *not* cite any evidence to support this argument. Nor does Patent Owner cite to any claim language to support its argument. Because Patent Owner's "two distinct tokens" argument is related to claim interpretation, we discuss it here.

Petitioner disagrees with Patent Owner's proposed claim construction (Reply 7–10) and also disagrees with Patent Owner's argument that there are two distinct tokens (*id.* at 11–13). Petitioner asserts the word "token" should be construed to mean "electronic information that represents a purchased electronic ticket." *Id.* at 7, 9–10 (citing Ex. 1018 ¶¶ 40–46). Dr. Meldal testifies that "the important aspect is that each token is unique and identifies uniquely the associated data." Ex. 1018 ¶ 43. Dr. Meldal also testifies that because "tokens are representatives of data they are frequently used in security contexts - passing the representative around is less subject to a security breach than transmissions of whole data sets." *Id.* at ¶ 45. Meldal points out, however, that there is a difference between what a token is and what a token is used for. *Id.*

Again, we look to the words of the claims themselves, the remainder of the Specification, the prosecution history, and probative extrinsic evidence to construe this claim term.

a. Claims

Exemplary independent claim 1 recites that the claimed method includes a step of the ticket seller's computer ("server system") (Ex. 1001, 14:2) "receiving from the user's [ticket purchaser's] computer device a token associated with the received request" to verify purchase of a previously purchased electronic ticket. Ex. 1001, 14:6–15. The claims do not recite how the ticket purchaser's device obtains the token. The claims also do not recite a specific form of the token.

Once the request to verify is received, the ticket seller's server system determines whether "a token associated with the purchased electronic ticket has been stored in a data record" associated with the received request. *Id.* at 14"16–18. The claims do not recite how the ticket seller's "data record" obtains the token. The claims also do not recite a specific form of the token stored in the "data record."

If a token has been stored, the ticket seller's server system also determines "whether the received token is valid." *Id.* at 14"18–19. Thus, the token itself does not validate anything. The ticket seller's server system compares the received token to the stored token to determine whether the received token is "valid." The claims do not recited the criteria or steps for determining whether the received token is valid.

If the received token is determined to be valid, the next claimed step is the ticket seller's server system "causing activation" of the previously purchased ticket by transmitting to the ticket purchaser's computer a "data file" comprising the visual validation display object." *Id.* at 14:20–24. The "data file" sent to the ticket purchaser's computer permits "visual recognition" by the ticket taker. *Id.* at 14:24–25. The claims do not recite

what the ticket taker is visually recognizing, or how the “data file” or “visual validation display object” becomes visually recognizable.

Based on the “visual recognition” by the ticket taker, the ticket purchaser is “permitted to utilize the service monitored by the ticket taker.” *Id.* at 14:24–26. The claims do not recite the criteria used by the ticket taker to permit or deny access to the service based on the “visual recognition.”

b. Specification

The Specification discloses that after the ticket purchaser buys a ticket, the ticket seller’s “website” sends to the purchaser’s device “a unique number, referred to as a token,” which is stored on the buyer’s device. Ex. 1001, 2:46–47; *see also, id.* at 5:48–54 (disclosing details of how the unique token number is generated). This same unique number, or token, also is stored in the seller’s database. *Id.* at 2:47–48. Thus, according to the Specification, this single token is stored in two different places.

Ticket holders that have purchased tickets have a data record in the seller’s database that contains the unique token associated with the ticket. *Id.* at 3:61–63. At the entrance to the event or service, customers are requested to operate an application on their devices. *Id.* at 3:65–67. The application retrieves from the buyer’s device the stored ticket token and transmits that token to the seller’s system. *Id.* at 3:67–4:1. The seller’s database first looks up the buyer’s token to check that the token is “valid.” *Id.* at 4:2–3. The Specification does not state the characteristics, criteria, or method of determining what constitutes a “valid” ticket. It appears to involve merely comparing the token received by the buyer to the token stored in the seller’s database. If the token is valid, then the seller’s system transmits back to the buyer’s device a “ticket payload,” which contains

computer code that, when operated, displays the “validating visual object.”
 The “validating visual object” is “selected by the seller.” *Id.* at 4:3–6.

Thus, the Specification discloses that the “token” is simply a unique number that is used to verify the buyer as the ticket purchaser.

c. Prosecution History

Neither party refers us to persuasive evidence in the prosecution history concerning construction of the term “token.”

d. District Court

The District Court did not construe the term “token.”

e. Conclusion Regarding Construction of “Token”

For convenient reference, the chart below reproduces the various claim constructions of the term “token” discussed above.

Petitioner	P.O. Prelim. Resp.	Dec. Inst.	P.O. Resp.
“electronic information that represents a purchased electronic ticket.” Reply 7, 10.	“an identifier that is publicly unknown serving as a reference to the original sensitive data and allowing for transfer of the token that has no meaningful value while maintaining secure storage of the real, sensitive data.” Prelim. Resp. 12–13.	“electronic information that causes a validation of the purchased electronic ticket.” Dec. Inst. 14	“electronic information in the form of a publicly unknown identifier that has no meaningful value if breached and serves as a reference to other sensitive data to obfuscate and secure the sensitive data during transmission and that causes

			validation of the purchased electronic ticket.” P.O. Resp. 12.
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Based on the weight of the evidence and the analysis above, we determine that the broadest reasonable interpretation of the term “token,” considering its ordinary and customary meaning to a person of ordinary skill in the relevant technology at the time of the invention, is the construction proposed by Petitioner in its Reply, which is “electronic information that represents a purchased electronic ticket.” This construction stays true to the claim language and most naturally aligns with the patent’s description of the invention.

The only specific form of a token disclosed in the Specification is that the token is a “unique number.” Ex. 1001, 2:45–46. In one embodiment, this unique number is generated by the seller’s server using a “numeric value unique to the [buyer’s] device,” such as an IMEI number or serial number. *Id.* at 5:44–48. This unique number is exchanged electronically between the buyer’s device and the seller’s computer system.

The parties agree that the broadest reasonable construction is to refer to this unique number as “electronic information.” We also agree. The Specification refers to using a “serial number” as a token, but we can take judicial notice¹¹ that many devices use “serial numbers” that include a

¹¹ See Fed. R. Evid. § 201(b) (“The court may judicially notice a fact that is not subject to reasonable dispute because it: (1) is generally known within the trial court’s territorial jurisdiction; or (2) can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned.”)

combination of letters and numbers. Thus, limiting a token to “numbers” is too narrow.

As we discussed above, the preliminary construction in our Decision to Institute stated the electronic information “causes a validation” of the purchased electronic ticket. Based on the complete record, we determine that this preliminary construction is too narrow, and incorrect. As discussed above, the token itself, the “unique number,” does not validate anything. It is used by the ticket seller’s server system to determine whether the token received by the buyer is “valid,” such as by comparing the token received by the buyer to the token stored in the seller’s database.

We also find Patent Owner’s proposed constructions to be unsupported by any probative evidence in the claims or Specification. Patent Owner has not directed us to any persuasive evidence that the token, as claimed, must be in “the form of a publicly unknown identifier.” This may be commercially desirable, and is disclosed in some embodiments, but there is no persuasive evidence that it should be read into the broadly recited “token” in the claims.

There also is no probative evidence that a token “has no meaningful value if breached,” as proposed by Patent Owner. Indeed, the evidence is to the contrary. An IMEI number or serial number of a device may have significant value if breached.

There also is no persuasive evidence that a token, as claimed in the independent claims, “serves as a reference to other sensitive data to obfuscate and secure the sensitive data during transmission.” The token, as claimed, serves only as a reference that an electronic ticket was purchased. Some dependent claims add additional limitations, such as encryption (*e.g.*

claims 5 and 6) that “obfuscate and secure” sensitive data, but this is not the claimed or disclosed function of the token.

Claim construction is not an opportunity for Patent Owner to rewrite its claims. “[W]e construe the claim as written, not as the patentees wish they had written it.” *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1374 (Fed. Cir. 2004).

Also, as discussed above, there is no persuasive evidence that the claimed token “causes validation” of the purchased electronic ticket.

Thus, we conclude that the term “token” is properly construed to mean “electronic information that represents a purchased electronic ticket.”

*D. Patentability of Claims 1–6, 17–23, and 34
Based on Terrell*

Petitioner asserts that claims 1–6, 17–23, and 34 are anticipated by each of Terrell, Cruz, and Dutta. *E.g.*, see Pet. 15. First we consider Terrell.

Anticipation is a question of fact. *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1341 (Fed. Cir. 2016).

[U]nless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102.

Net MoneyIN, Inc. v. VeriSign, Inc., 545 F.3d 1359, 1371 (Fed. Cir. 2008); see also *Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987) (“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”). “The identical invention must be shown in as complete

detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

1. Terrell (Ex. 1010)

We make the following findings concerning the disclosure of Terrell.

Terrell discloses a method of electronic ticketing “in which an image is displayed by a mobile device that is eye-readable for inspection purposes.” Ex. 1010, 2:8–9.¹² As stated in Terrell, “[f]or the purposes of speed and economy, at times it may be preferable for such a ticket inspection to be merely done by the inspector's eyes.” *Id.* at 4:16–17. The electronic tickets disclosed in Terrell include “both a visually readable component that may be inspected by eye and also a machine-readable code that is readable by electronic reading apparatus.” *Id.* at 4:18–20.

Terrell discloses that the mobile device “displays graphical information comprising textual information and animated graphics” on the viewable screen “*for visual inspection*,” and also “presents a machine-readable code to allow *authentication* of said textual information.” *Id.* at 3:3–6 (emphasis added). Thus, Terrell distinguishes between “inspection,” which uses the graphical information, and “authentication,” which uses the machine-readable code.

¹² We note that Petitioner's cites to Terrell are to the original page numbers (top, center) of the exhibit and not the exhibit page number added by Petitioner in the bottom right corner of each page of Exhibit 1010. Thus, for example, Petitioner's cite to “Ex. 1010, pg. 20” (Pet. 27) is a citation to text appearing on page 20 of the original document, which also is labeled by Petitioner as “Exhibit 1010 – Page 21.” To avoid additional confusion, we also will cite to the original document page number and *not* the exhibit page number added by Petitioner.

Petitioner relies primarily on the embodiment disclosed in Figure 16 of Terrell, and the text describing the Figure 16 embodiment. *E.g.*, Pet. 27 (referring to the “non-validated ticket of Figure 16”). The Figure 16 embodiment concerns validating a previously purchased, but non-validated, electronic ticket. Ex. 1010, 18:8–10. Because the Figure 16 embodiment incorporates substantial portions of other embodiments, we first describe Terrell’s disclosure in general, and then focus on the Figure 16 embodiment, on which Petitioner relies.

As disclosed in Terrell, electronic tickets are provided by the ticket seller’s server to mobile devices of ticket buyers, such as mobile phones. *Id.* at 4:5–6; *see also* Figures 6, 13 and *id.* at 8:18–9:14; 15:19–16:8 (illustrating and describing Terrell’s ticket purchase procedures). The ticket buyer’s mobile device sends to the seller’s server a request to purchase a ticket to a selected event. *Id.* at 16:3–8. The seller’s server responds by sending the buyer a ticket having a unique ticket number. *Id.* The server has access to a “verification database.” *Id.* at 4:30. Tickets supplied by the server to the mobile devices include a unique ticket number, along with other details, all of which are stored in the verification database. *Id.* at 5:1–4; 16:3–8.

The server sends to the mobile device a ticket with a graphical information part and a machine-readable part, such as a barcode. *Id.* at 9:16–18; Fig. 7. The graphical information part includes data that is to be presented as “human-readable information” on the mobile device display. *Id.* at 9:19–20. The “human-readable” graphical information part includes data defining a unique ticket number (as stored in verification database 111), a date relating to the event for which the ticket was bought, a code for the

day, a "valid to" time, other ticket details, and "non-textual graphical information." *Id.* at 9:21– 26.

The mobile device executes "an application" on the mobile device, which displays the text information and graphics "for visual inspection," and the machine readable code "to allow authentication" of the textual information. *Id.* at 2:13–17. The mobile device application requires at least one graphic element to be animated, i.e., to have a change in appearance, such as by movement, change in form, change in color, or a change in size. *Id.* at 10:26–29.

The ticket information transmitted to the ticket purchaser includes a "valid for" time (*id.* at 12:2–3), and a "code for the day" (*id.* at 13:8–9).

Figure 11, reproduced below, illustrates an example of the "human-readable" graphical information on a mobile phone, which includes a "valid for" time 1104, a unique ticket number 1106, a code for the day 1107, and a non-text graphic. *Id.* at 13:8–21. Button 1109 allows a user to request that the barcode part of the ticket be displayed. *Id.* at 13:27–28. The barcode is shown in Figure 12. Where the screen resolutions and dimensions of the buyer's mobile device permit, the entire ticket, including the "human-readable" graphical information and barcode, may be presented simultaneously on a single screen. *Id.* at 15:15–17.

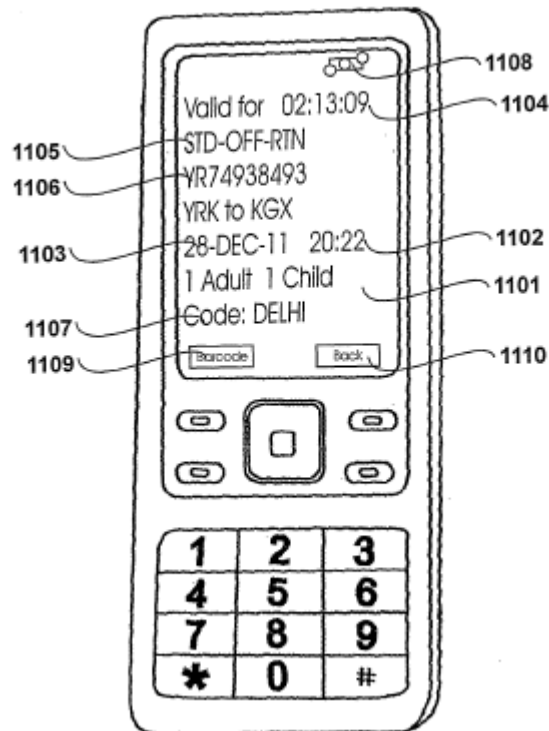


Figure 11 shows a mobile device displaying graphical information included in a ticket.

By viewing the code for the day 1107 and/or the “valid for” time 1104, a ticket inspector can easily observe that the ticket appears to be a valid ticket. *Id.* at 13:18–20.

The barcode may be read to obtain the unique ticket number which is then be compared with unique ticket number 1106, as shown in Figure 11. *Id.* at 14:7–8. According to Terrell, this provides a simple check of the ticket’s authenticity. *Id.* at 14:9. Where a database of unique ticket numbers is available, this ticket number can also be checked against such a database to ensure that it is valid. *Id.* at 14:9–11.

Terrell also discloses that the data to be included in the graphical information part of the ticket data is encrypted using a symmetric private key obtained from the mobile device. *Id.* at 17:6–14. A part of the

symmetric key comprises a selected part of the IMEI number of the requesting mobile device. *Id.* at 17:15–17. When the ticket is received back at the requesting mobile device, the *application resident on the receiving mobile device* ensures that the selected part of its IMEI number is present in the symmetric key. *Id.* at 17:17–19. If it is not present, the decryption of the graphical information part of the ticket data is blocked. *Id.* at 17:19–21.

Terrell discloses that “this feature ensures that the IMEI number of the receiving mobile device matches the IMEI number of the requesting mobile device, and if not then decryption using the symmetric key is prohibited.”

Id. at 17:19–21.

As described above, Terrell provides a validated ticket to the buyer. *Id.* at 18:7–8. In an alternative embodiment, however, Terrell discloses that a ticket is provided to the buyer’s mobile device in a *non-validated form*, and is validated in a separate transaction initiated by the buyer. *Id.* at 18:8–10. An example of a non-validated ticket is shown in Figure 16 of Terrell.

Figure 16 of Terrell is reproduced below.

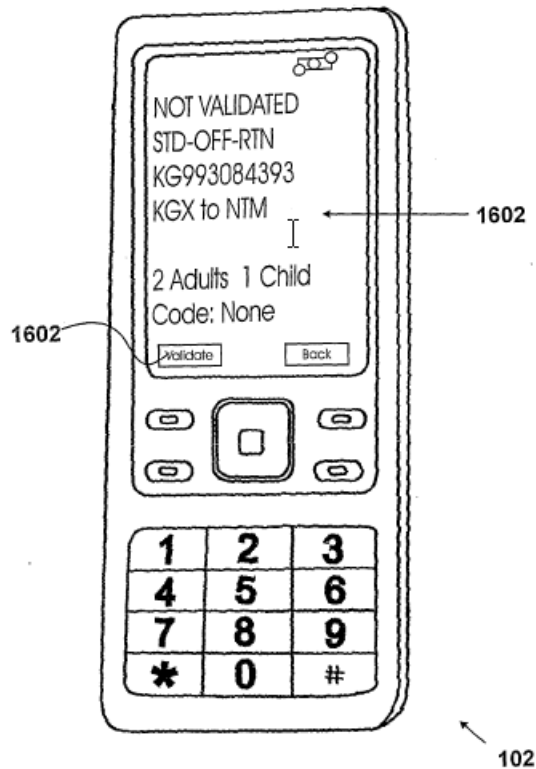


Figure 16 shows an example of a non-validated ticket.

As shown in Figure 16, the words “not validated” are displayed on the ticket. *Id.* at 18:19–26. The non-validated ticket does *not* show the “valid to” time or a decrementing “valid for” time. *Id.* The non-validated ticket also does not include a date or corresponding “code for the day.” *Id.*

When the buyer wants to use the non-validated ticket, the buyer validates the ticket by pressing “validate” button 1602 (Figure 16), which replaces barcode button 1109 shown in Figure 11. *Id.* at 18:27–30. The validation request asks the seller’s server to validate a ticket having a specified unique ticket number. *Id.*

Upon receiving the request, the server responds by assembling the required data, including date, code for the day, and “valid to” time. *Id.* at 18:30–19:5. The assembled data is transmitted to the requesting mobile

device, so that the application can update the pre-validation ticket to a validated ticket, such as shown in Figures 11 and 12. *Id.*

a. Discussion of Terrell

Petitioner separates independent claims 1, 17, and 18 into lettered clauses ([a]–[j]) (Pet. 24–27) and then provides a clause-by-clause analysis comparing each recited claim limitation to the Terrell disclosure (*id.* at 27–29). Petitioner also cites and relies on the declaration testimony of Dr. Meldal. *Id.* at 29 (citing Ex. 1004 ¶¶ 56–66). Petitioner concludes that Terrell anticipates claims 1, 17, and 18. *Id.*

Patent Owner takes a different view of the Terrell disclosure. According to Patent Owner, Terrell does not anticipate the limitations in clauses [c], [d], [e], [f], [g], [h], and [i]¹³ of claims 1, 17 and 18. P.O. Resp. 31, 38, 47.

b. Claims 1, 17, and 18 – Clauses [c], [d], and [e]

Patent Owner discusses clauses [c], [d], and [e] collectively. *Id.* We discuss them individually.

(1) Clause [c]

Clause [c] recites that the user requests “a visual validation display object that confirms that the user possesses the previously purchased electronic ticket.” *E.g.*, Ex. 1001, 14:8–10. We construed the term “visual validation display object” to mean “an object that is readily recognizable from human observation that can verify a ticket.” Petitioner relies on the code of the day as disclosing the claimed “visual validation display object. Pet. 28.

¹³ Patent Owner follows the clause-by-clause lettering used by Petitioner and referred to above.

In validating a previously non-validated ticket, and responding to a request for validation from the buyer (Ex. 1010, 18:30 (Upon receiving the request . . .)) Terrell discloses that the seller's server sends to the buyer's mobile device the required validation data, including a "code for the day." *Id.* at 19:1–5. This is simply a "day specific code." *Id.* at 13:9. The buyer's mobile device uses this data to update the "pre-validation ticket" to a "validated ticket." *Id.* As shown in Figure 11 of Terrell, the example code for the day 1107 is "DELHI." This word is an object that is readily recognizable from human observation that can verify a ticket, and thus, is within our construction of the term "visual validation display object." Indeed, Terrell discloses that the purpose of the code for the day is to allow a ticket inspector to "easily . . . observe that the ticket appears to be a valid ticket." *Id.* at 13:18–20. As explained above, we determined that, in the context of the evidence and arguments in this proceeding there was not a substantive difference between a verified visual object and a validated visual object.

Patent Owner argues that the code of the day is not a "display object." P.O. Resp. 33. We disagree, as explained above. Patent Owner's argument is based on a construction of "visual validation display object" that we did not adopt.

Patent Owner also argues that the code of the day is not part of a "data file." *Id.* at 18:30–19–5. We disagree. Terrell specifically discloses that the code of the day is transmitted as part of a data file that includes various codes and commands, including barcode data. As disclosed in Terrell,

Upon receiving the request the server responds by assembling the required *data*, including date, code for the day, 'valid to' time, and generating the corresponding barcode *data*, as previously

described. The assembled *data* and the barcode *data* are then transmitted to the requesting mobile device, so that the application can update the pre-validation ticket to a validated ticket.

Ex. 1010, 18:30–19:5 (emphases added). Accordingly, we find that Terrell’s code of the day is transmitted by the ticket seller to the ticket buyer as part of a data file, as recited in the challenged claims.

Patent Owner also argues that “the non-text graphic 1108 of Terrell” is not a “visual validation display object, and that “the petition does not allege the graphics teach a ‘visual validating display object; as in claim element [c] and instead relies entirely on the ‘code for the day.’” P.O. Resp. 34 (citing Pet. 28”). Patent Owner also argues that the Petition “does not submit that the ‘valid for’ time and/or the ‘valid to’ time teaches a ‘visual validation display object.’” *Id.* We agree that Petitioner has not argued that these elements in Terrell are a “visual validation display object.” Thus, we need not further address Patent Owner’s argument on these elements.

Based on the weight of the evidence and the findings above, we determine that Terrell discloses each of the limitations in clause [c], as recited in the challenged claims.

(2) Clauses [d] and [e]

Clause [d] recites the request is “for utilization of a service monitored by the ticket taker.” *E.g.*, Ex. 1001, 14:10–11. Clause [e] recites that “the visual validation display object [is] configured to be readily recognizable visually by the ticket taker.” *E.g.*, *Id.* at 14:11–13.

Patent Owner also asserts that the limitations in these clauses are not disclosed in Terrell (P.O. Resp. 38 (“because Terrell fails to disclose claim limitations . . . [d] and [e], it does not anticipate claims 1, 17, or 18, or any

claim that depends from claims 1, 17, or 18”)), but offers no persuasive evidence to support its argument.

It is beyond reasonable dispute that Terrell discloses that its electronic tickets are used for a service monitored by a ticket taker, and that the display object in Terrell is readily recognizable. As stated in Terrell, “[f]or the purposes of speed and economy, at times it may be preferable for such a ticket inspection to be merely done by the inspector's eyes.” Ex. 1010, 4:16–20. Terrell discloses that the purpose of the code for the day is to allow a ticket inspector to “easily . . . observe that the ticket appears to be a valid ticket.” *Id.* at 13:18–20.

Accordingly, for purposes of this Decision, we find that Terrell discloses the limitations in clauses [d] and [e].

c. Claims 1, 17, and 18 – Clause [f]

Clause [f] recites the step of “receiving from the user’s computer device a token associated with the received request.” *E.g.*, Ex. 1001, nu14:15–16. We have construed the term token to mean “electronic information that represents a purchased electronic ticket.” The ’967 patent discloses that the token is a “unique number,” sent to the buyer’s device from the seller’s server. Ex. 1001, 2:46–47. The ’967 also discloses that the unique number that is the token also is stored in the ticketing database. *Id.* at 2:47–48. This is exactly what is disclosed in Terrell.

As discussed above, the ticket buyer’s mobile device sends to the seller’s server a request to purchase a ticket to a selected event. Ex. 1010, 16:3–8. The seller’s server responds by sending the buyer a ticket having a unique ticket number. *Id.* The ticket can be validated, as shown in Figure 11, or non-validated, as shown in Figure 16. The server has access to a

“verification database.” *Id.* at 4:30. Tickets supplied by the server to the mobile device include a unique ticket number, along with other details, all of which are stored in the verification database. *Id.* at 5:1–4; 16:3–8.

Petitioner asserts that the “specific unique ticket number” (reference numeral 1106) Terrell is the claimed token. Pet. 28 (citing Ex. 1010, 18:29–30). The cited disclosure is in the context of the embodiment shown in Figure 16. In this embodiment, the ticket buyer has previously purchased a non-validated ticket, which is later validated in a separate transaction initiated by the ticket buyer. Ex. 1010, 18:8–10. When it is time to validate, the buyer sends to the ticket seller a request for “the validation of a [previously purchased] ticket having a specified unique ticket number.” Ex. 1010, 18:29–30. Thus, the seller’s computer receives the specified unique number. The seller is able to identify the ticket because this number also is stored in the seller’s stored in the seller’s verification database. *Id.* at 5:1–4; 16:3–8. Upon receiving the request to validate a ticket, the server assembles and sends to the buyer’s mobile device the data required to validate the ticket. Ex. 1010, 18:30–19:5.

Patent Owner asserts that the specific unique ticket number in Terrell is not a “token” as recited in the challenged claims. Patent Owner argues that “Petitioner ignores that limitation [f] is separate and apart from limitation [a] and requires the token associated with the received request to be received from the user’s computer device.” P.O. Resp. 44–45. Patent Owner concludes that “Terrell does not teach claim element [f], “receiving from the user’s computer device a token associated with the received request.” *Id.* at 45 (citing Ex. 2005 ¶ 49). Dr. Gottesman repeats Petitioner’s argument without any additional analysis, facts, or data to

support it. His testimony is entitled to little probative weight. 37 C.F.R. § 42.65(a).

Clause [a] of claim 1, used as an example for similar claims 17 and 18, is the preamble to the claim. It states, “A method by a server system for obtaining visual validation of the possession of a purchased electronic ticket on a user's computer device for presentation to a ticket taker comprising.” This preamble does not recite any specific step of the claimed method. This preamble also does not establish an antecedent basis for any later recited method limitation. “Preamble language that merely states the purpose or intended use of an invention is generally not treated as limiting the scope of the claim.” *Pacing Techs., LLC v. Garmin Int'l, Inc.*, 778 F.3d 1021, 1023–24 (Fed. Cir. 2015) (citing *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 952 (Fed.Cir.2006)). This is the case here. Patent Owner has not provided any persuasive evidence or argument that the method step limitations in the body of the claim rely upon and derive antecedent basis from the preamble, which is required for the preamble to act as a necessary component of the claimed invention. *See Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed.Cir.2003). Here, the preamble merely recites the context in which the method is performed, which is a “server system.” The preamble also states the intended use of the method, which is for obtaining visual validation of a purchased ticket that will be presented to a ticket taker.

As we explained above, the challenged claims do not recite a specific form of the token. In the claimed invention, and in Terrell, once the token is matched with the same token also stored in the server's database, the server sends a data file that changes the non-validated ticket to a validated ticket.

The Specification of the '967 patent discloses that ticket holders that have purchased tickets have a data record in the system database that contains the unique token associated with the ticket. Ex. 1001, 3:61–63. Upon request from the user's mobile device, the system database looks up the token to check that the token is valid for the upcoming show. *Id.* at 4:2–3. Terrell performs this same database look-up function to identify the non-validated ticket and retrieve and assemble the data needed to validate the ticket. Ex. 1010, 18:27–19:5.

Accordingly, we find that Terrell discloses the limitations in clause [f].

d. Claims 1, 17, and 18 – Clause [g]

Clause [g] recites the step of “determining whether a token associated with the purchased electronic ticket has been stored in a data record associated with the received request, and if it has, whether the received token is valid.” *E.g.*, Ex. 1001, 14:17–20.

Petitioner asserts Terrell's user's request to the server for validation of a ticket “having a specified unique ticket number” discloses the recitations of each claim element [g]. Pet. 29.

Patent Owner asserts “[t]here is no step, within Terrell, of determining whether a token has been stored in a data record associated with the received request.” P.O. Resp. 46. We disagree. As explained in Terrell, once a request to validate is received, which identifies the ticket by a unique number, a token, the server in Terrell responds by “assembling the required data.” Ex. 1010, 19:1. This “required data” is stored in the server's database. *Id.* at 5:3–4 (“Details of the tickets sold, including the unique ticket number, are stored in the verification database.”). Thus, to obtain the

“required data” for validation, Terrell must access the verification database and determine whether it is eligible for validation.

Accordingly, we find that Terrell discloses the limitations in clause [g].

e. Claims 1, 17, and 18 – Clause [h] and clause [i]

Clause [h] recites “in dependence on the determination that the received token is valid, causing an activation of the purchased electronic ticket.” *E.g.*, Ex. 1001, 14:21–23. Clause [i] recites “transmitting to the user's computer device a data file comprising the visual validation display object.”

Petitioner asserts that Terrell's Figure 16 embodiment satisfies these claim limitations. Pet. 29 (citing Ex. 1010, 18:27–19:5).

Patent Owner asserts that clauses [h] and [i] should be read together. Patent Owner also asserts that the code for the day, the “valid to” time and the “valid for” time “fail to teach limitations [h] and [i] as they are not transmitted in dependence on the determination that the received token is valid. Terrell does not teach a token or a received token.” P.O. Resp. 48 (citing Ex. 2005 ¶ 54). Dr. Gottesman again repeats Patent Owner's argument. Ex. 2005 ¶ 54.

Patent Owner's argument is based on an incorrect construction of the term “token,” and an incorrect understanding of Terrell. The specific unique ticket number” (reference numeral 1106) in Terrell is the claimed token. It is “electronic information that represents a purchased electronic ticket.” This token is sent to the buyer's device when the buyer purchases a non-validated ticket and is stored in the database of the seller's server. To obtain the “required data” for validation, Terrell must access the verification

database and determine whether the non-validated ticket is eligible for validation.

Accordingly, we determine that clauses [h] and [i] are disclosed in Terrell.

Claims 1, 17, and 18 – Summary

Based on our analysis above of independent claims 1, 17, and 18 in light of Terrell, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 17, and 18 are anticipated by Terrell and thus are unpatentable.

We recognize that the terms used in Terrell are not identical to those used in the '967 patent. We are persuaded, however, that the disclosure in Terrell is identical to the inventions recited in claims 1, 17, and 18, and discloses all the limitations of these claims arranged or combined in the same way as recited in the claims. *See Net MoneyIN*, 545 F.3d at 1370.

f. Claims 2 and 19

Claims 2 and 19, dependent from claims 1 and 18, respectively, each recite that if it is determined that a token has not been stored, initiating confirmation that the purchased electronic ticket has been purchased, and, in dependence on such confirmation, storing a token in the data record associated with the purchased electronic ticket; and transmitting to the user's computer device a visual validation display object corresponding to the purchased electronic ticket.

Petitioner cites Terrell's claim 14 to assert, in part, that Terrell discloses the method steps recited in claims 2 and 19. Pet. 31 (citing Ex. 1010, 22:17–18). Lines 17–18 of claim 14 of Terrell state that the server is configured to “write details of an event to said [server] database in

response to a purchase made by a customer using a mobile device having a viewable screen.” Ex. 1010, 22:17–18. This claim reflects the similar disclosure in the written description of Terrell that “[d]etails of the tickets sold, including the unique ticket number, are stored in the verification database.” Ex. 1010, 5:3–4. Terrell also discloses that this database is checked to ensure that a token is valid. *Id.* at 14:9–11. Thus, clearly the database is checked.

Petitioner also relies on the declaration testimony of Dr. Meldal. Pet. 31 (citing Ex. 1004 ¶¶ 67–70). Dr. Meldal testifies that Terrell discloses “updating a database” to include information on ticket purchases. Ex. 1004 ¶¶ 67, 68.

In its Reply, Petitioner asserts that claims 2 and 19 “comprise nothing more than a standard process for updating a database with purchase information.” Reply 26 (citing Exhibit 1018 ¶¶ 72, 74-76). Petitioner also argues that an inherent disclosure in a reference may anticipate a claimed invention. In his Supplemental Declaration, Dr. Meldal repeats Petitioner’s argument (*see* Ex. 1018 ¶¶ 72, 74) and adds that it is also his opinion “that the determination that no token has been stored resulting in a double check of purchase is inherent in any electronic purchase arrangement to prevent double purchasing or to accommodate interrupted transactions.” (*see* Ex. 1018 ¶ 75). Dr. Meldal does not disclose the underlying facts or data on which the opinion that a “double check of purchase is inherent in any electronic purchase arrangement” is based. Thus, it is entitled no probative weight.

We recognize that an inherent disclosure may anticipate a patent claim. *E.g., see Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377

(Fed. Cir. 2003) (“a prior art reference may anticipate without disclosing a feature of the claimed invention if that missing characteristic is necessarily present, or inherent, in the single anticipating reference.”).

What is missing from the Terrell disclosure and from Dr. Meldal’s testimony is any discussion of what happens if, when the database is checked, it is determined “that no such token has been stored,” as recited in claims 2 and 19. We have not been directed to persuasive evidence that upon determining that a token has *not* been stored in the database, Terrell then initiates an additional step to confirm that the ticket, in fact, has been purchased, and if so, *then* initiates an addition step of storing a token in the database. Thus, the evidence to which we have been directed does *not* establish that Terrell discloses not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim. The evidence also does not establish that the missing characteristic is necessarily present, or inherent, in Terrell.

Accordingly, we determine that Petitioner has not met its burden to establish unpatentability of claims 2 and 19 by a preponderance of the evidence.

g. Claims 3 and 20

Claims 3 and 20, dependent from claims 1 and 18, respectively, each recite the steps of storing in the database a data value representing a predetermined lock time, determining whether a duration of time from the transmission of the visual validation display object to the predetermined lock time has expired, and, based on this determination, permitting or not permitting the visual validation display object to be transmitted to the user's computer device.

Terrell discloses that mobile device 102 includes a real-time clock. Ex. 1010, 11:24-25. Thus, the application obtains the current time provided from the real-time clock of the mobile device. *Id.* at 11:25–27; Fig. 10. Terrell also discloses, with reference to Figure 10, that the text, and any other graphics, defined by the graphical information part of the ticket data is then displayed along with the “valid for” time. *Id.* at 12:1–3. As the graphical information is displayed at step 902 (*see id.* Fig. 10) the steps 1001 and 1002 (*id.*) are “repeatedly performed” resulting in the “valid for” time being a “decrementing timer.” *Id.* at 12:3–5 (emphasis added). Thus, when the time runs out, the graphical information is no longer displayed. Petitioner cites this disclosure (Pet. 32 (citing Ex. 1010, 10:1–5 [sic – 12:1–5])), and concludes that Terrell discloses the limitations in claims 3 and 20. Petitioner also relies on the testimony of Dr. Meldal. Pet. 33 (citing Ex. 1004 ¶¶ 71–74).

Patent Owner argues that “A POSITA would also understand that the check whether the predetermined lock time has expired “occurs prior to transmission of the visual validation display object.” P.O. Resp. 50. Patent Owner also asserts “there is no teaching of a data value representing the lock time stored in the data record associated with the purchased ticket.” *Id.* (citing Ex. 2005 ¶ ¶5557). Dr. Gottesman repeats Patent Owner’s argument. Ex. 2005 ¶ ¶5557. Merely repeating an argument from the P.O. Response in the declaration of an expert does not give that argument enhanced probative value.

Patent Owner does not address persuasively the disclosure in Terrell or Dr. Meldal’s testimony that, based on the “decrementing timer,” graphical information is no longer displayed when the predetermined time expires.

Based on the analysis above, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 3 and 20 are anticipated by Terrell.

h. Claims 4 and 21

Claims 4 and 21, dependent from claims 1 and 18, respectively, each recite the step of transmitting an authorization key to the user's, that is the ticket purchaser's computer device that transmitted the received request.

As disclosed in the '967 patent, in one embodiment, the security protocol first requires the user to login to the server with a login username and password. Ex. 1001, 5:62–64. The application also transmits the IMEI, UDID or serial number of the mobile device or any combination of them. *Id.* at 5:64–65. When verified by the server, an authorization key, which is a random number, is transmitted to the mobile device. *Id.* at 5:66–67. The authorization key is different from the “token” discussed above in the context of the independent claims. When the user's application transmits a request for a validating visual object, it transmits the authorization key to the server for verification. *Id.* at 6:1–4. On verification, the validating visual object is encrypted using the authorization key and transmitted to the mobile device. *Id.* at 6:5–6. The application running on the mobile device then uses the authorization key to decrypt and display the validating visual object transmitted to the mobile device. *Id.* at 6:7–8. We note, however, that the encryption/decryption function or step is not recited in claims 4 and 21. The encryption step is recited in claims 5 and 22, which we consider below.

Terrell discloses that an application is installed on the mobile device that allows the user to purchase a ticket or view a previously purchased ticket. Ex. 1010, 5:13–19. The step of installing the application is shown in

Figure 3 of Terrell. *Id.* at 5:28–29. A request for the application is sent from the mobile device to the server. *Id.* at 5:29–6:1. Consequently, at step 302 (*see id.* at Fig. 3) the mobile device receives the application, along with a public encryption key that is for subsequent asymmetric encryption. *Id.* at 6:7–9. The down-loaded application provides the mobile device with the ability to purchase and display tickets. *Id.* at 6:10–13.

Petitioner cites to this disclosure in Terrell and concludes that Terrell discloses the recited elements in claims 4 and 21. Pet. 33 (also citing Ex. 1004 ¶¶ 75–76).

Patent Owner does not address the specific disclosure cited and relied upon by Petitioner. Instead, Patent Owner argues that “Claims 4 and 21 are submitted to be patentable for at least their dependence on an allowable base claim.” P.O. Resp. 51. We determined above that the base claim is not patentable.

We determine that Petitioner has demonstrated by a preponderance of the evidence that claims 4 and 21 are anticipated by Terrell.

i. Claims 5 and 22

Claims 5 and 22, dependent from claims 4 and 21, respectively, each recite the step of encrypting the visual validation display object using the authorization key. The form or type of encryption is not specified in these claims. These claims also do not address whether the barcode part of the application or some other part carries the encryption information. All that claims 5 and 22 require is the step of encrypting the visual validation display object using the authorization key.

As discussed above in the context of claims 4 and 21, Terrell discloses that mobile device receives the down-loaded application, along with a public

encryption key that is for subsequent asymmetric encryption. Ex. 1010, 6:7–9. It is the down-loaded application that provides the mobile device with the ability to display tickets. *Id.* at 6:10–13.

Petitioner asserts that Terrell anticipates claims 5 and 22 based on the disclosure in Terrell that “the data in the *barcode part of the ticket* is digitally signed using a private authentication key of an asymmetric (public) key pair.” Pet. 34 (citing Ex. 1010, 10:4–5) (emphasis added). Petitioner also relies on the declaration testimony of Dr. Meldal. *Id.* (citing Ex. 1004 ¶¶ 77–78). Dr. Meldal testifies that the graphical information part of the ticket that was previously decrypted is later retrieved. Ex. 1004 ¶ 77 (“Initially, the graphical information part of the ticket data 702 that was decrypted at step 605 is retrieved at step 901.”).

As disclosed in Terrell and discussed above, Terrell discloses the use of both a human-readable component and a machine-readable component in an electronic ticket. *E.g.*, Ex. 1010, 5:18–20. At times, however, only the human-readable component will be displayed. *Id.* at 5:16-17. The barcode information still is available on the mobile device but it is not seen or scanned for validation. As Dr. Meldal testifies, the *graphical* information part of the ticket that was previously decrypted is later retrieved. Ex. 1004 ¶ 77 (“Initially, the graphical information part of the ticket data 702 that was decrypted at step 605 is retrieved at step 901.”).

Patent Owner does not address the specific disclosure cited and relied upon by Petitioner. Instead, Patent Owner argues that “Claims 5 and 22 are submitted to be patentable for at least their dependence on an allowable base claim.” P.O. Resp. 51. We determined above that the base claim is not patentable.

We determine that Petitioner has demonstrated by a preponderance of the evidence that claims 5 and 22 are anticipated by Terrell.

j. Claims 6 and 23

Claims 6 and 23, dependent from claims 4 and 21, respectively, each recite the step of encrypting the visual validation display object with a public key of a public/private key pair for which the transmitted authorization key is an associated private key.

Petitioner asserts that Terrell anticipates claims 6 and 23 based on the disclosure in Terrell that describes the ticket data being “digitally signed using a private authentication key of an asymmetric (public) key pair.” Pet. 35 (citing Ex. 1010, 10:4–5). Petitioner also relies on the declaration testimony of Dr. Meldal. *Id.* (citing Ex. 1004 ¶¶ 79–80).

We also note that Terrell discloses that the “data to be included in the *graphical* information part (702) of the ticket data is encrypted using the symmetric private key obtained from the mobile device.” Ex. 1010, 17:7–9 (emphasis added). It is the graphical part of the information in Terrell that corresponds to the claimed visual validation display object.

Patent Owner does not address the specific disclosure cited and relied upon by Petitioner. Instead, Patent Owner argues that “Claims 6 and 23 are submitted to be patentable for at least their dependence on an allowable base claim.” P.O. Resp. 51. We determined above that the base claim is not patentable.

We determine that Petitioner has demonstrated by a preponderance of the evidence that claims 6 and 23 are anticipated by Terrell.

k. Claim 34

Claim 34, dependent from claim 18, recites that the visual validation display object is an animation that operates in reaction to a touch of the user's computer device screen.

Petitioner asserts that Terrell discloses a mobile device having a validation button 1602 that serves to retrieve the validation display object. Pet. 36 (citing Ex. 1010, 18:27–19:5). As shown in Figure 16 of Terrell, validation button 1602 is positioned on the screen of the mobile device. In addition, Petitioner asserts that Terrell discloses that the validation display object may include “graphics to be animated”. *Id.* (citing Ex. 1010, 20; claim 1). Claim 1 in Terrell recites that the “data defining *graphical information* comprising *textual information* and *graphics to be animated*.” Ex. 1010, 20:5–7 (emphasis added); *see also, e.g., id.* at 2:7–11 (disclosing an electronic ticket displayed by a mobile device with an image that is eye-readable for inspection purposes including *graphical information* to be animated). Thus, Terrell discloses that “graphical information” includes both text and graphics.

As is clear from Figure 16, button 1602, which initiates validation using an eye-readable image, is on the screen and thus is activated by touching the screen. It also is clear that Terrell discloses that the graphical information can be an animated image.

Patent Owner asserts, correctly, that claim 34 does not relate to animation of graphical information generally; it recites specifically that the visual validation display object is an animation. Petitioner argues that the “code for the day” (reference numeral 1107) is the visual validation display object. Pet. 28. The code for the day is part of the graphical information

used by Terrell. Ex. 1010, 13:8–9 (“The ticket information also includes the unique ticket number 1106 and a code for the day (a day specific code) 1107.”). In one disclosed embodiment, the “graphical information” includes an animated graphical element in the form of a decrementing timer and two interchanging logos that move across the top of the screen. *Id.* at 10:29–11:3. Thus, clearly, text, such as the timer, can be animated. The clear disclosure in Terrell is that any of the graphical information, such as the code of the day, can be animated, such as by movement, a change in size, or a change in color. Animation is not limited to pictures. Thus, we find that Terrell discloses that the code for the day, as part of the graphical information, may be animated.

Accordingly, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 34 is anticipated by Terrell.

2. Summary for Ground 1 Based on Terrell

We determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 3–6, 17, 18, 20–23, and 34 are anticipated by Terrell. We determine, however, that Petitioner has not established by a preponderance of the evidence that claims 2 and 19 are anticipated by Terrell.

E. Patentability of Claims 1–6, 17–23, and 34 Based on Cruz

We make the following findings concerning the disclosure of Cruz.

Cruz (Ex. 1011) discloses an electronic ticket system. As shown in Figure 1 of Cruz, a ticket is issued by a ticket issuing system, which is connected to a communications network. The system also stores a copy of issued tickets on a data storage device. The issued ticket is sent to a mobile device. Some ticket models are push-type, wherein the ticket issuing system

pushes the ticket to the device of the end-user, whereas some ticket models are pull-type which involve a request from the end-user device before the ticket is generated. *See* Ex. 1011, [0005].

Petitioner provides a clause by clause comparison of the Cruz disclosure with the challenged claims. *See* Pet. 40–50.

In Cruz, the user requests a modular ticket by sending a request to the ticket issuing system. *Id.* [0090]. The ticket issuing system processes the request, validates the request, and sends a ticket to the mobile device. *Id.* [0091]. A ticket data object may be an optically or visually recognizable pattern, such as a picture.” *Id.* [0061].

According to Petitioner the token recited in the challenged claims is merely the fact that “the data contained in the request is checked.” Pet. 41 (citing Ex. 1011 [0090]).

We have discussed in detail, in our claim construction section, the specific requirements and functions of the claimed token. The claimed process relates to a previously purchased ticket. We construed the token to be “electronic information that represents a *purchased* electronic ticket” (emphasis added). As explained above in our analysis of the challenge based on Terrell, the ’967 Specification is clear, after the ticket purchaser buys a ticket, the ticket *seller’s* “website” sends to the *purchaser’s* device “a unique number, referred to as a token,” which is stored on the buyer’s device. Ex. 1001, 2:46–47. This same unique number, or token, also is stored in the seller’s database. *Id.* at 2:47–48.

Petitioner’s reliance on merely checking data when the initial request to purchase is made does not disclose the claimed steps involving the token.

There is no evidence that the seller's system sends to the buyer a token upon initial purchase.

When it is time to validate this ticket, the buyer's device retrieves the stored ticket token and transmits that token to the seller's system.

Id. at 3:67–4:1. The seller's database first looks up the buyer's token to check that the token is “valid.” *Id.* at 4:2–3. If the token is valid, then the seller's system transmits back to the buyer's device a “ticket payload,” which contains computer code that, when operated, displays “the validating visual object.” Petitioner's reliance on simple data checking at the time of purchase does not meet the limitations claimed involving the token in independent claims 1, 17, and 18. The remaining claims all depend, directly or indirectly, from one of claims 1, 17, and 18. Thus, Cruz does not anticipate any of the challenged claims.

Accordingly, we determine that Petitioner has not established by a preponderance of the evidence that the challenged claims are anticipated by Cruz.

F. Patentability of Claims 1–6, 17–23, and 34 Based on Dutta

We make the following findings concerning the disclosure of Dutta.

Dutta (Ex. 1012) discloses methods and apparatus for securely managing wireless device transactions involving the use of stored-value data objects. In some embodiments, the stored-value data object functions as an electronic ticket or token. *See* Ex. 1012, 1:44–50.

In Dutta, a wireless device requests a desired stored-value data object from a ticket issuing system. The ticket issuing system ensures secure delivery to the requesting device by encrypting the requested data object using a public key provided by the wireless device in association with the

request. Only the requesting wireless device has the corresponding private key, and thus only that device can decrypt and subsequently use the data object. *Id.* at 1:51–58.

The wireless device initiates redemption of the stored data object by sending a redemption request to the ticket redeeming system. In response, the ticket redeeming system sends a certificate containing its associated public key to the wireless device. The ticket redeeming system may also send a nonce (“number used once”) or other generated value to the wireless device. *Id.* at 2:47–56.

In general, the ticketing system disclosed in Dutta subjects an electronic ticket to a high level of initial security to insure verification, and then provides the user with a potentially less secure, short-lived, rapid verification object that may be subsequently verified more quickly than the original electronic ticket. *Id.* at 6:5–10.

Dutta uses several acronyms, which we repeat below for convenient reference: a ticket issuing system (TIS); a ticket redeeming system (TRS); and a user device or “personal trusted device” (PTD), and a rapid verification token (RVT). *Id.* at 5:25–28; 3:20. If a human operator is meant to redeem or authenticate the RVT, the security element can generate an authentication pattern or a graphical element. *Id.* at 3:49–53.

A typical electronic ticket transaction involves a purchase request from the PTD to the TIS, and subsequent delivery of the requested electronic ticket from the TIS to the PTD. Later, a user of the PTD presents the electronic ticket to the TRS for redemption.

Upon receiving the redemption request from the PTD, the TRS sends a message, B, termed “Request To Show Ticket” to the PTD, which request

includes a generated value and a certificate (Cert_TRSⁿ⁺¹) associated with the particular TRS. The generated value may be a nonce, for example. The certificate transferred from the TRS to the PTD includes a public encryption key (TRSPuK) associated with the TRS.

Petitioner provides a clause-by-clause analysis comparing the challenged claims to the Dutta disclosure. Pet. 50–65.

Patent Owner asserts that Dutta does not disclose the “token” limitations in clauses [f] and [g] in the challenged independent claims. Suppl. P.O. Resp. 32–38. We agree.

Clause [f] requires the step of “receiving from the user's computer device a token associated with the received request.” We have construed the term token to mean “electronic information that represents a purchased electronic ticket.” The '967 patent discloses that the token is a “unique number,” sent to the buyer's device from the seller's server. Ex. 1001, 2:46–47. The '967 also discloses that the unique number that is the token also is stored in the ticketing database. *Id.* at 2:47–48.

In the '967 patent, after the ticket purchaser buys a ticket, the ticket *seller's* “website” sends to the *purchaser's* device “a unique number, referred to as a token,” which is stored on the buyer's device. Ex. 1001, 2:46–47. This same unique number, or token, also is stored in the seller's database. *Id.* at 2:47–48.

When it is time to validate this ticket, the buyer's device retrieves the stored ticket token and transmits that token to the seller's system. *Id.* at 3:67–4:1. The seller's database first looks up the buyer's token to check that the token is “valid.” *Id.* at 4:2–3. If the token is valid, then the seller's system transmits back to the buyer's device a “ticket payload,”

which contains computer code that, when operated, displays “the validating visual object.”

In the Petition, Petitioner asserts that the clause [f] limitation is met by Dutta’s disclosure that “a purchase request from the PTD 16 to the TIS 12, and subsequent delivery of the requested electronic ticket 18 from the TIS 12 to the PTD 16.” Pet. 55–56. This is a request from the buyer, but Petitioner does not establish what is the “token” submitted with the request related to a previously purchased ticket. Petitioner’s asserted disclosure from Dutta does not meet the specific limitations in clause [f].

Clause [g] requires determining whether a token associated with the purchased electronic ticket has been stored in a data record associated with the received request, and if it has, whether the received token is valid.”

For clause [g], Petitioner asserts that this clause is met by Dutta’s disclosure that in response to the request, the Dutta system generat[es] a composite data object and send[s] it back to the device.” This disclosure does not disclose the limitation in clause [g]. Based on this cited disclosure from Dutta, the seller’s server is *not* checking its database for a match of something that is a token, something that is “electronic information that represents a purchased electronic ticket,” received from the buyer.

The cited disclosures from Dutta for clauses [f] and [g] do not meet the limitations claimed involving the token in independent claims 1, 17, and 18. The remaining claims all depend, directly or indirectly, from one of claims 1, 17, and 18. Thus, Dutta does not anticipate any of the challenged claims.

Accordingly, we determine that Petitioner has not established by a preponderance of the evidence that the challenged claims are anticipated by Dutta.

III. MOTION TO EXCLUDE

Patent Owner moves to exclude lines 66:20–72:11 of the March 7, 2018 deposition of Petitioner’s expert Sigurd Meldal (Ex. 2006) as outside the scope of the Petition and this *inter partes* review. Mot. Excl. 1. Patent Owner also moves to exclude a deposition exhibit (Ex. 2006, “Exhibit 10”).

Deposition Exhibit 10 is a deposition exhibit from the Meldal deposition. The deposition transcript has been filed, as Exhibit 2006. The deposition exhibits, however, were not included with the Exhibit. 2006 transcript. Thus, Meldal deposition Exhibit 10 is *not* an exhibit filed in this proceeding and is not of record in this proceeding. We cannot exclude from the record something that is not in the record. Accordingly, we deny the Motion to Exclude Meldal deposition Exhibit 10

We also deny the Motion to Exclude excerpts from the deposition transcript of Dr. Meldal. We did not cite or rely on this deposition testimony.

The Board acts as both the gatekeeper of evidence and as the weigher of evidence. Rather than excluding evidence that is allegedly confusing, misleading, untimely, and/or irrelevant, we will simply not rely on it or give it little or no probative weight, as appropriate, in our analysis. Here, we did not rely on it. Similar to a district court in a bench trial, the Board, sitting as a non-jury tribunal with administrative expertise, is well positioned to determine and assign appropriate weight to evidence presented, including giving it no weight. *See, e.g., Donnelly Garment Co. v. NLRB*, 123 F.2d

215, 224 (8th Cir. 1941) (“One who is capable of ruling accurately upon the admissibility of evidence is equally capable of sifting it accurately after it has been received . . .”).

Thus, in this *inter partes* review, the better course is to have a complete record of the evidence to facilitate public access as well as appellate review.

Accordingly, we deny Patent Owner’s Motion to Exclude Evidence.

IV. STIPULATED JOINT MOTION TO WITHDRAW PATENT OWNER’S MOTION TO AMEND AND SUBSTITUTE MOTION TO AMEND

We grant the parties’ Stipulated Joint Motion to Withdraw Patent Owner’s Motion to Amend and Substitute Motion to Amend (Paper 27). We determine that granting the motion will promote the just, speedy, and inexpensive resolution of the dispute in this proceeding. As a result, and as requested by the parties, Papers 18, 23, and 26 (and associated Exhibits 1019–1024, 2008, and 2010) are withdrawn from consideration. Thus, there is no motion to amend the claims before us.

V. CONCLUSION

Based on the analysis of the arguments and evidence, we determine Petitioner has established by a preponderance of the evidence that claims 1, 3–6, 17, 18, 20–23, and 34 of the ’967 patent are unpatentable as anticipated by Terrell.

We determine Petitioner has not established by a preponderance of the evidence that Claims 2 and 19 are unpatentable as anticipated by Terrell.

We determine that Petitioner has not established by a preponderance of the evidence claims 1–6, 17–23, and 34 are unpatentable as anticipated by either Cruz or Dutta.

We deny Patent Owner’s Motion to Exclude (paper 32).

We grant the parties’ Stipulated Joint Motion to Withdraw Patent Owner’s Motion to Amend and Substitute Motion to Amend (Paper 27). As a result, and as requested by the parties, Papers 18, 23, and 26 (and associated Exhibits 1019–1024, 2008, and 2010) are withdrawn from consideration.

VI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1, 3–6, 17, 18, 20–23, and 34 are unpatentable as anticipated by Terrell;

FURTHER ORDERED that Petitioner has not established by a preponderance of the evidence that Claims 2 and 19 are unpatentable as anticipated by Terrell;

FURTHER ORDERED that Petitioner has not established by a preponderance of the evidence claims 1–6, 17–23, and 34 are unpatentable as anticipated by either Cruz or Dutta;

FURTHER ORDERED that Patent Owner’s Motion to Exclude (Paper 32) is denied;

FURTHER ORDERED that the parties’ Stipulated Joint Motion to Withdraw Patent Owner’s Motion to Amend and Substitute Motion to Amend (Paper 27) is granted.

FURTHER ORDERED that this is a Final Written Decision under 35 U.S.C. § 318(a), and that parties to the proceeding seeking judicial

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review of the Decision under 35 U.S.C. § 319 must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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