

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZYNGA INC.,
Petitioner,

v.

IGT,
Patent Owner.

IPR2022-00200
Patent 8,795,064 B2

Before HUBERT C. LORIN, SCOTT A. DANIELS, and
BARBARA A. PARVIS, *Administrative Patent Judges*.

DANIELS, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Zynga Inc. (“Zynga” or “Petitioner”) filed a Petition requesting *inter partes* review of claims 1–18 of U.S. Patent No. 8,795,064 B2 (Ex. 1001, “the ’064 patent”). Paper 1 (“Pet.”). IGT, (“IGT” or “Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”). Upon Patent Owner’s request, and Petitioner’s agreement, we authorized Patent Owner to submit in this proceeding, as an exhibit, the invalidity contentions filed by Petitioner in the related district court case. Paper 7. We also authorized Petitioner a Reply, and Patent Owner a Sur-reply, to address specific *Fintiv* issues relating to the trial date in the parallel district court litigation. *Id.* Petitioner subsequently filed a Reply (Paper 8) and Patent Owner filed a Sur-Reply (Paper 9).

We instituted trial for claims 1–18 of the ’064 patent on the grounds of unpatentability alleged in the Petition. Paper 12 (“Decision to Institute” or “Inst. Dec.”).

After institution of trial, Patent Owner filed a Patent Owner Response, (“PO Resp.,” Paper 14), along with a declaration by Patent Owner’s Declarant, Stacy Friedman, (Ex. 2018). Additionally, Patent Owner filed a Disclaimer under 37 C.F.R. 1.321(a) of dependent claims 7 and 15 in the ’064 patent. Ex. 2022.¹ Petitioner timely filed a Reply (“Pet. Reply,” Paper 18). Subsequently, Patent Owner filed a Sur-Reply (“PO Sur-Reply,” Paper

¹ As a result of the disclaimer, claims 7 and 15 are no longer part of this proceeding. *See Guin v. Kopf*, 96 F.3d 1419, 1422 (Fed. Cir. 1996) (“A statutory disclaimer under 35 U.S.C. § 253 has the effect of canceling the claims from the patent and the patent is viewed as though the disclaimed claims had never existed in the patent.”).

19) to address certain arguments raised by Petitioner in its Reply. The parties also filed supplemental claim construction briefs. Papers 28, 29.

A hearing for this proceeding was held on March 13, 2023. The transcript of the hearing has been entered into the record. Paper 30. (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a).

For the reasons that follow, we determine that Petitioner has met its burden of showing by a preponderance of the evidence that claims 1–6, 8–14, and 16–18 are unpatentable.

A. Real Parties in Interest

Petitioner states that Zynga Inc., is the real party in interest. Pet. 4. Patent Owner states that IGT is the real party in interest. Paper 3.

B. Related Matters

The parties state that the ’064 patent was asserted in *IGT v. Zynga Inc.*, Case No. 6:21-cv-00331 (W.D. Tex.). Pet. 4; Paper 3, 1. Petitioner and Patent Owner are parties to the following additional *inter partes* review proceedings: IPR2022-00199 (U.S. Patent No. 7,168,089), IPR2022-00223 (U.S. Patent No. 7,303,473), and IPR2022-00368 (U.S. Patent No. 8,266,212). Petitioner informs us that, other than being directed to the same general technological field, these patents are not directly related to the ’064 patent. Pet. 4.

C. The ’064 Patent (Ex. 1001)

The ’064 patent is titled “Method and Apparatus for Outputting a Message at a Game Machine” and issued on August 5, 2014. Ex. 1001, codes (54), (45). The ’064 patent “relates to gaming devices” and more specifically “relates to methods and apparatus for providing messages to players at a gaming machine.” *Id.* at 2:31–34. The ’064 patent describes a

system that “allows a casino, via a game machine, to output appropriate messages in an appropriate way to appropriate players at appropriate times.” Ex. 1001, 4:48–50.

Figure 1 of the '064 patent is reproduced below.

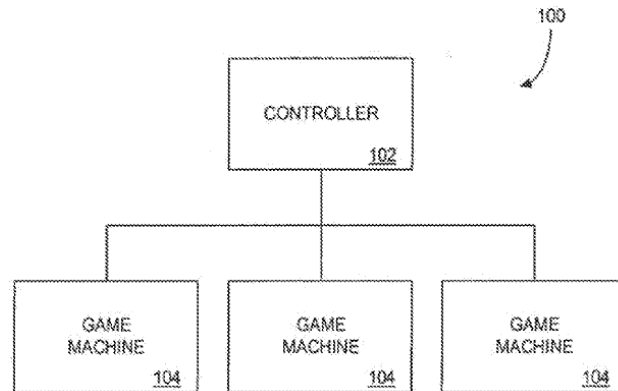


Fig. 1 is a block diagram illustrating an example of gaming system 100. *Id.* at 2:63–64. Gaming system 100 includes one or more controllers 102 in communication with one or more game machines 104 via a network. *Id.* at 10:64–11:4. The '064 patent discloses that “communication between the controller 102, the game machines 104, and/or third-party servers (not pictured), may be direct and/or via a network such as the Internet.” *Id.* at 11:16–19. “In operation, the controller 102 and the game machines 104 may exchange information about the use of the game machines 104 by individual players, data about the players, messages, and the like.” *Id.* at 12:29–32.

The '064 describes various types of messages that can be output to a player based on information about the player that is tracked by the gaming system. *See id.* at 17:48–52 (“In some embodiments of the invention, a player database 308 is used to track information about players including identity, contact information, preferences, performance history, comp points, current activity, and demographics.”). The table in Figure 6, reproduced below, provides examples of instructive messages to a player.

312

INSTRUCTIVE MESSAGE IDENTIFIER 600	INSTRUCTIVE MESSAGE 602
INSTR-1-642985152	"PRESS AND HOLD THE SPIN BUTTON FOR TEN SECONDS TO ACTIVATE 'AUTO-PLAY' MODE"
INSTR-2-642985152	"IF YOU BET 3 COINS PER SPIN, THEN YOU GET TO USE AN IMPROVED PAYOUT TABLE WITH A BIGGER MAXIMUM JACKPOT"
INSTR-3-642985152	"IF YOU CRACK OPEN AN EGG WITH AN ALLIGATOR IN IT, THE BONUS ROUND ENDS"
INSTR-4-642985152	"GETTING A STRAIGHT PAYS 4 COINS; GETTING A STRAIGHT FLUSH PAYS 50 COINS"
INSTR-5-642985152	"TO CHECK THE VOICEMAIL IN YOUR HOTEL ROOM, PRESS THE 'CHECK MESSAGES' BUTTON ON THE LEFT SIDE OF THIS GAME MACHINE"

FIG. 6

Figure 6 is an illustration of database table 312 containing instructive message identifiers 600 and corresponding instructive messages 602 including, for example, a message stating “getting a straight pays 4 coins; getting a straight flush pays 50 coins.” *Id.* at 18:44–56.

D. Challenged Claims

Petitioner challenges claims 1–18. Pet. 1. Claims 1 and 9 are independent claims. Ex. 1001, 75:29–78:17. Claims 7 and 15 have been disclaimed and are no longer considered in this proceeding. Ex. 2022. Claims 2–6 and 8 depend from claim 1, and claims 10–14 and 16–18 depend (directly or indirectly) from claim 9. *Id.*

Claim 1 is illustrative and is reproduced below with Petitioner’s labeling of the limitations added in bracketing.

- [1p] 1. A gaming system comprising:
- [1(i)] at least one output device;
- [1(ii)] at least one input device;
- [1(iii)] at least one processor; and

[1(iv)] at least one memory device which stores a plurality of instructions, which when executed by the at least one processor, cause the at least one processor to operate with the at least one output device and the at least one input device to:

[1(a)] (a) identify a player placing at [least²] one wager on at least one play of a game,

[1(b)] (b) track information associated with the identified player,

[1(c)] (c) if a first set of information associated with the identified player is tracked and a message trigger condition occurs in association with the identified player:

(i) determine, based at least in part on the first set of tracked information, a first message, and

(ii) output the determined first message to the identified player, and

[1(d)] (d) if a second, different set of information associated with the identified player is tracked and the message trigger condition occurs in association with the identified player:

(i) determine, based at least in part on the second set of tracked information, a second, different message, and

(ii) output the determined second message to the identified player.

Ex. 1001, 75:29–57.

² Claim 1 was corrected to replace “as” with “least.” Ex. 1001, Certificate of Correction.

E. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–18 would have been unpatentable on the following grounds:³

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–18	103(a)	Aristocrat ⁴
1–18	103(a)	Aristocrat and Boushy ⁵

II. ANALYSIS

A. Legal Standards

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. 35 U.S.C. § 103; *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). “[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *KSR*, 550 U.S. at 416 (citing *United States v. Adams*, 383 U.S. 39, 50–51 (1966)). The question of obviousness is resolved based on underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the

³ Petitioner supports its challenge with the Declaration of David Crane, (Ex. 1003) and Patent Owner provides the Declaration of Stacy Friedman, (Ex. 2018). *See infra*.

⁴ Bennett et al., International Pub. No. WO 00/32286, published June 8, 2000 (Ex. 1004) (“Aristocrat”).

⁵ Boushy, U.S. Patent No. 5,761,647, issued June 2, 1998 (Ex. 1005) (“Boushy”).

prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

In our Institution Decision we determined that

[a] POSITA in the technology field of the '064 patent would have had a bachelor's degree in computer science or a similar discipline and 2 years of professional programming experience in the gaming software industry. This POSITA would be aware of and generally knowledgeable about casino gaming systems as of the priority date for the '064 patent, including the networks connecting various casino gaming machines and the manner in which casino gaming machines tracked player information and delivered messages to players.

Inst. Dec. 15–16. Patent Owner argues that “[t]his definition should be revised to exclude reference to ‘track[ing] player information’ because it infuses within the definition a hindsight bias toward the claimed subject matter.” PO Resp. 13. Petitioner did not substantively respond to Patent Owner’s revised definition. *See generally* Pet. Reply.

A review of the Background of the Invention in the '064 patent explains for example that “for a variety of reasons, there is a need for systems and methods to provide information to (or otherwise communicate with) players at game machines.” Ex. 1001, 2:53–55. The primary obviousness reference, Aristocrat, describes a gaming system where “an animated character is periodically displayed to communicate information to the player, the character being arranged to appear super imposed over any game screen currently displayed at the time the character is displayed.” Ex. 1004, 2:17–21. The secondary obviousness reference, Boushy, explains that “all casinos have implemented some form of customer tracking to identify and reward their valuable customers.” Ex. 1005, 1:12–14. The prior

art provides evidentiary support that even before the filing of the '064 patent it was known to track player betting information and to deliver a message or some type of information, such as an incentive or reward, to the player. *See* Ex. 1005 (Boushy describing, for example, that “each casino has its own system that tracks betting data on the casino’s customers.”). To the extent that our initial definition included a subtopic arguably corresponding to an element of the claims, e.g., “[a] gaming system comprising . . . at least one processor to . . . track information,” we agree that the definition need not specifically describe a claimed subtopic that can be appropriately addressed within the scope and content of the prior art. Ex. 1001, 75:29–40. As noted above, Petitioner does not expressly contest Patent Owner’s modification to the level of ordinary skill in the art. Given the background of the invention as expressed in the '064 patent, we are persuaded that the level of ordinary skill in the art is as follows:

[a] POSITA in the technology field of the '064 patent would have had a bachelor’s degree in computer science or a similar discipline and 2 years of professional programming experience in the gaming software industry. This POSITA would be aware of and generally knowledgeable about casino gaming systems as of the priority date for the '064 patent, including the networks connecting various casino gaming machines and the manner in which casino gaming machines provide information to (or otherwise communicate with) players at game machines.

Id. at 2:54–55.

Importantly, our analysis below would not change under the previous or revised definitions of a person of ordinary skill in the art.

C. Claim Construction

We construe claims using the principles set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc) and related cases.

37 C.F.R. § 42.100(b) (2021). Under that precedent, the words of a claim are generally given their “ordinary and customary meaning,” which is the meaning the term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *Phillips*, 415 F.3d at 1312–13.

Petitioner argued initially “that there are no terms in the ’064 patent that require an express construction for purposes of this petition and therefore all terms can be afforded their plain and ordinary meanings.” Pet. 14–15 (citing Ex. 1003 ¶¶ 48–52). In our Institution Decision, we construed the term “message” to include “any communication, in any form, intended to be presented to a player or other party . . . [in] different forms, including text, audio, video, and images” because the parties’ arguments centered around different interpretations for that term. Inst. Dec. 19. Patent Owner, in its Response, asserts a particular interpretation for claim limitations (c) and (d), and disagrees with our construction of the term “message.” PO Resp. 11–12. We address these matters below.

1. Claim Limitations (c) and (d) and “message trigger condition occurs”

Patent Owner argues that a person of ordinary skill in the art “would recognize that steps (c)(i) & (ii) are performed when the predicates specified in element (c)’s *if* clause are met and that steps (d)(i) & (ii) are performed when the predicates recited in element (d)’s *if* clause are met.” PO Resp. 11 (citing Ex. 2018 ¶¶ 70–71)(emphases added). Patent Owner explains that,

when a “message trigger condition occurs,” a system that tracks both “a first set of information associated with the identified player” and “a second, different set of information associated with the identified player” outputs two determined messages to the identified player, as recited in elements (c)(ii) and (d)(ii).

Id. at 12. Patent Owner argues further that “the claims’ plain language requires **two** different messages to be output to a player when the predicates recited in elements (c) and (d) both are met.” *Id.* We agree with Patent Owner’s interpretation to an extent. When, and if, both conditional *if* clauses are met, the claim expressly requires outputting “a first message” and a “second, different message.” Ex. 1001, 75:42–57.

We note that both parties agree that limitations (c) and (d) require use of the same “message trigger condition.” *Id.* at 12, Pet. Reply, 4. But, the parties have differing interpretations of this phrase.

Patent Owner argues that the same message trigger condition means the *same occurrence* of a message trigger condition results in the output of two different messages. *See* PO Resp. 12 (Patent Owner asserts that “by the claim’s plain language, when a ‘message trigger condition occurs,’ a system that tracks both ‘a first set of information associated with the identified player’ and ‘a second, different set of information associated with the identified player’ outputs two determined messages to the identified player.”), *see also* Tr. 96:1–5 (“Patent Owner’s counsel arguing that claim 1 “asks did a message triggered condition occur? It’s talking about an event. It’s looking for an event. It’s looking for the same event in both of these claims, claim elements and that’s part of the two-step predicate that this claim calls for.”).

Petitioner argues that Patent Owner’s interpretation improperly reads into the limitation a requirement that the “output of the two messages be triggered by the same ***in-game event or occurrence***.” Pet. Reply 4.

Petitioner provides the following example for what it believes to be the proper interpretation, “[s]o, if the ‘message trigger condition’ is the end

of a game, the ‘first message’ can be output when one game ends, while the ‘second, different message’ can be output when a different game ends.” *Id.* Petitioner’s point is that the same “message trigger condition” can occur at different times, and the claim language does not require the “message trigger condition” to be the *same occurrence* for both elements (c) and (d).

Claim 1 recites for limitation (c) that “a message trigger condition occurs in association with the identified player,” and for limitation (d), “*the* message trigger condition occurs in association with the identified player.” Ex. 1001 75:42–52 (emphasis added). Considering initially the claim language, there is no express relative time dependency as to when the first and second messages occur, nor is there any temporal limitation in the claims as to when the same condition occurs. The claim language only recites that the “message trigger condition occurs,” not that the two potential trigger conditions occur at the same time. As Petitioner points out, claim limitations 1(c) and 1(d), which both begin with “if” are independent limitations, and “the message trigger *condition*,” in limitation 1(d) is not required to occur at the same time as “a message trigger *condition*” in limitation (c). Claim 1 just requires the same “condition, e.g., the end of game condition” to occur when both conditional limitations are met. In fact, the two conditional “if” clauses are not required to both occur. For example, if only a “first set of information” is tracked, and “a message trigger condition occurs” only the “determined first message” is output to the player. *Id.* at 75:49–57. Read in context, the “if” clauses are not dependent on one another, and either or both can occur, irrespective of the other conditional limitation.

Turning to the specification, we find examples of trigger conditions described as Boolean expressions including:

- (i) (fifty_dollar_bill_inserted) AND (player_tracking_card_inserted)
- (ii) (time_of_day>6 pm) AND (empty_hotel_rooms>30) AND NOT (player_staying_at_hotel)
- (iii) (help_button_pressed=TRUE)
- (iv) (free_money_hotline_phone_on_hook=FALSE)

Id. at 50:41–47. For instance, trigger condition (ii) can be satisfied essentially any time later than 6 p.m., e.g., 7 p.m. or 9 p.m. And, Patent Owner does not persuasively direct us to any disclosure in the specification that states that the trigger condition must be the same occurrence of a particular trigger condition to output two different messages. So, considering the specification and the plain meaning of claim 1 the same message trigger condition for limitation (c) can, for instance, be satisfied at 6:01 p.m., and for limitation (d) at 7 p.m..

To the extent that Patent Owner argues that the claim language requires that the first and second messages must be output at the same time, we disagree. First, as we noted above, there is no timing or temporal requirement to this end expressed in the claim. Second, the specification of the '064 patent explains that “[a]ccording to some embodiments, a plurality of messages may be output at a game machine. (i) Two messages may be output simultaneously. (ii) A first message may be output, and then a second message may be output.” *Id.* at 61:42–46. The specification also discloses that

the invention may include determining an order in which to output the plurality of messages. Variations include:

- (i) ordering the plurality of messages
- (ii) determining an order of the plurality of messages
- (iii) Sorting the plurality of messages

- (iv) prioritizing the plurality of messages
- (vv) determining priorities of the plurality of messages
- (vi) determining an index for each of the plurality of messages
- (vii) selecting a message to output first

Id. at 61:53–64. Moreover, the specification explains that “[t]he present invention allows a casino, via a game machine, to output appropriate messages in an appropriate way to appropriate players at appropriate times.” *Id.* at 4:48–50.

Given all this, we agree with Patent Owner to the extent that “the claims’ plain language requires *two* different messages to be output to a player *when* the predicates recited in elements (c) and (d) both are met.” PO Resp. 12 (emphasis added). Yet, due to the conditional nature of the *if* statements recited in limitations (c) and (d), it is also true as Petitioner argues that these are independent conditional limitations and the plain language of the claim does not mandate that “the message trigger condition” in limitation (d) must be the same occurrence of “a message trigger condition” in limitation (c), or that the messages be output at the same time.

2. message

Patent Owner states only that it disagrees with our preliminary construction of “message” to mean “any communication, in any form, intended to be presented to a player or other party” including presentation in a combination “of different forms, including text, audio, video, and images.” PO Resp. 13.

In our Institution Decision, because the claims do not specify *how* a message conveys information to a player, we turned to the specification of the ’064 patent to better understand what the content of a “message” would

include. Pet. 17–19. We cited, for example, the explanations in the '064 patent describing that “a message may be any information that may be output to a player using an output device on a game machine. Messages may be output in a variety of different forms, including text, audio, video, and images.” Ex. 1001, 24:15–18. We acknowledge that there are examples in the '064 written description that describe textual, i.e. written communications. *See id.* at 24:34–36 (“Examples of gaming-related messages include: (i) messages relating to events on the game machine (e.g., “You just won 100 coins!”).”) Patent Owner does not, however, point to anything in the '064 patent which precludes messages that convey information without words, or that suggests or shows disavowal of non-textual messages. *See Phillips*, 415 F.3d at 1316 (“In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor. In that instance as well, the inventor has dictated the correct claim scope, and the inventor’s intention, as expressed in the specification, is regarded as dispositive.”). Indeed, the '064 patent describes “[f]or example, messages timed and targeted to make a player aware of opportunities available to him maybe presented using a humorous animated character.” Ex. 1001, 3:36–39.

Apart from this, Patent Owner states that “the issue is moot because the patentability grounds identified in this Petition apply even when the Board applies its construction of ‘message.’” PO Resp. 13. Accordingly, we do not modify our preliminary claim construction, and determine on the complete record before us that a “message” encompasses “any communication, in any form, intended to be presented to a player or other party” including presentation in a combination “of different forms, including text, audio, video, and images.”

D. Ground 1: Claims 1–6, 8–14, and 16–18 – Obviousness over Aristocrat (Ex. 1004)

On the complete record before us, Petitioner has shown by a preponderance of the evidence that claims 1–6, 8–14, and 16–18 are obvious over Aristocrat.

1. Aristocrat (Ex. 1004)

Aristocrat is titled “Player Information Delivery” and published on June 8, 2000. Ex. 1004, codes (43), (54). Aristocrat describes a gaming machine that displays a message including an animated character to communicate information to the player. *Id.*, code (57). The character is independent of and appears asynchronously with respect to the game being played and is arranged to appear superimposed over any game screen currently displayed at the time the character is displayed. *Id.* Figure 7 of Aristocrat illustrates a gaming machine with a character displayed with a speech bubble and is reproduced below.

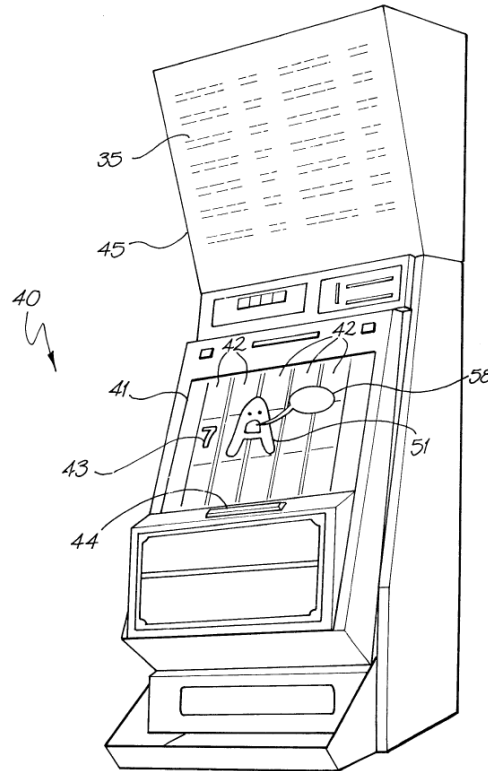


FIG. 7

As shown in Figure 7, slot machine 40 has “a video display screen 41 which displays a plurality of rotatable reels 42 carrying symbols 43” and “is arranged to pay a prize on the occurrence of a predetermined symbol or combination of symbols.” Ex. 1004, 17.⁶ Aristocrat describes a system having “an animated graphic user interface in which an animated character or symbol supplies information through visual and audio mediums.” *Id.* at 18. “The system is implemented as a separate process to the primary game and acts independently of the normal functions of the machine.” *Id.*

⁶ We cite to Petitioner’s labeling of page numbers unless otherwise noted.

2. Independent Claim 1

(a) Petitioner's Arguments

Petitioner contends that Aristocrat and the knowledge of a person of ordinary skill in the art teach all of the limitations of claim 1. *See* Pet. 22–32.

i. Limitation [1p] – A gaming system comprising:

Petitioner argues that “Aristocrat’s invention ‘relates to gaming consoles or gaming machines of the type known as slot machines arranged to play a large variety of card related and other gambling games . . .’” Pet. 22 (citing Ex. 1004, 1:3–5; Ex. 1003 ¶ 65).

ii. Limitation [1(i)] – at least one output device

Petitioner argues that “Aristocrat’s gaming system comprises display means such as a video display screen 141 . . . Aristocrat’s gaming system further comprises a device providing ‘an audio output.’” *Id.* at 23 (citing Ex. 1004, 10:35–11:2).

iii. Limitation [1(ii)] – at least one input device

Petitioner contends that “Aristocrat discloses ‘a push button’ used to initiate a game, and an actuator such as a touch sensor or a pull handle . . . Aristocrat further discloses a mechanism for receiving wagers such as ‘a coin input chute, a credit card reader, or other type of validation device.’” *Id.* at 24 (citing Ex. 1004 15:28–32).

iv. Limitation [1(iii)] – at least one processor

Petitioner further contends that Aristocrat “discloses that the ‘program which implements the game and user interface is run on a standard gaming machine control processor 100 as illustrated schematically in Figure 2.’” *Id.* (citing Ex. 1004, 15:23–26).

v. Limitation [1(iv)] – at least one memory device which stores a plurality of instructions, which when executed by the at least one processor, cause the at least one processor to operate with the at least one output device and the at least one input device to:

According to Petitioner Aristocrat does not expressly describe a memory device, however, a person of ordinary skill in the art

would have understood that all processors running software would have some sort of associated memory to store the software. (Ex. 1003, Crane Decl. ¶ 78). Indeed, it was well known in 2002 that software programs running on standard microprocessors, such as the Intel® Pentium® processors disclosed in the '064 patent, execute a plurality of instructions stored in a memory device. (*Id.*).

Id. at 27 (citing Ex. 1003 ¶ 78). Regarding an input and output device, Petitioner's declarant, Mr. Crane, points out that "Aristocrat further discloses that '[t]he program which implements the game and user interface is run on a standard gaming machine control processor 100 . . . [t]his processor forms part of a controller 110 which drives the video display screen 141 and receives input signals from sensors 144.'" Ex. 1003 ¶ 79 (citing Ex. 1001, 15:23–26).

vi. Limitation [1(a)] – identify a player placing at least one wager on at least one play of a game

Petitioner argues that Aristocrat relates to slot and gambling games and also "can output happy-birthday messages to players. (*Id.*). Because it is able to provide player-specific outputs, a POSITA would have understood that Aristocrat's gaming system identifies a player, retrieves the player's profile from the 'registration system.'" Pet. 28. With respect to a "wager," Petitioner asserts that "Aristocrat's system further monitors a 'player[']s account and account history" and analyzes "[a] log of the players' bets and

wins.” *Id.* (citing Ex. 1004, 16:14–16, 23:1–2). Mr. Crane testifies that “a POSITA would have understood that a player of Aristocrat’s gaming system places at least one wager on at least one play of a game.” Ex. 1003 ¶ 81.

vii. Limitation [1(b)] – track information associated with the identified player

Petitioner argues that “Aristocrat keeps and analyzes ‘[a] log of the players’ bets and wins.’ (Ex. 1004, 23:1–2). Creating a ‘log’ of a player’s bets and wins *is* tracking information associated with the identified player—because that is what a log is used for.” Pet. 30 (citing Ex. 1003 ¶ 83). Mr. Crane testifies that “a POSITA would have understood Aristocrat to disclose tracking information because its system monitors various data, including states of the machine, game play, and players’ account history, all of which change over time and therefore create patterns or trends that are observable only over time.” Ex. 1003 ¶ 85.

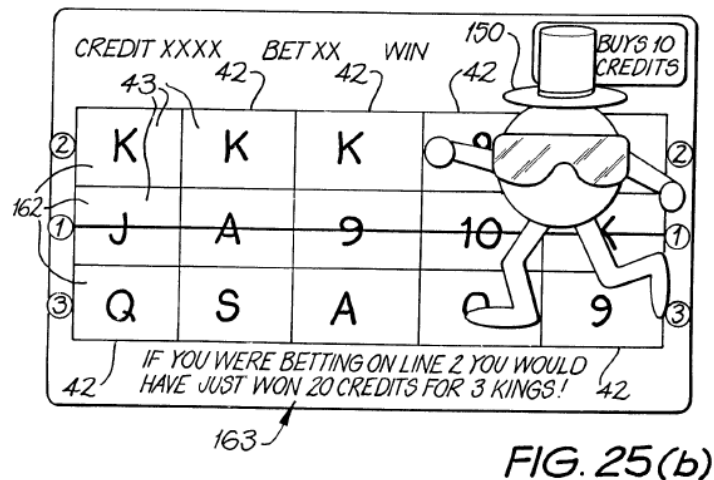
viii. Limitation [1(c)] – if a first set of information associated with the identified player is tracked and a message trigger condition occurs in association with the identified player: (i) determine, based at least in part on the first set of tracked information, a first message, and (ii) output the determined first message to the identified player.

Petitioner argues that Aristocrat discloses tracking, *inter alia*, the player’s bets, which could be “a first set” of player information, but which can be “any collection of ‘tracked information.’” Pet. 33 (citing Ex. 1004, 30:8–13), *see also id.* at 32 (Petitioner asserting that “the specification does not purport to limit the bounds of a ‘set’ of tracked information.”).

Petitioner asserts, for example, that the information tracked by Aristocrat

includes “information about the player’s wins/losses . . . information about the player’s bets . . . information about the player’s rate of play and, if it falls below a preset threshold, triggering a message to the player that her play is too slow.” *Id.* at 36 (citing (Ex. 1003 ¶¶ 98–99).

Consistent with our claim construction, Petitioner contends that “message” can “refer to *any* communication, in *any* form, intended to be presented to a player or other party.” *Id.* (quoting Ex. 1001, 9:33–34) (emphasis added). Petitioner points to Aristocrat’s example of an end-of-game state as a message trigger where “Aristocrats gaming system informs the player that if the player had bet on more lines, the player would have won.” *Id.* at 33 (citing Ex. 1004, 30:8–13). Aristocrats Figure 25(b) is reproduced below.



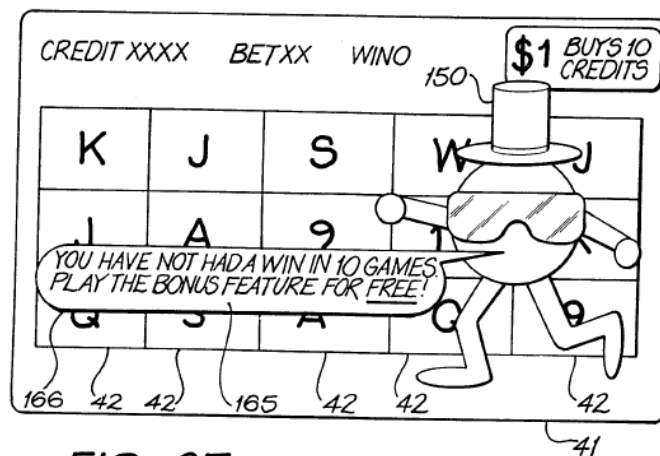
Aristocrat’s Figure 25(b), including the “Mr. Cashman” feature, informs the player at the end of a game with the message that “if you were betting on line 2 you would have just won 20 credits for 3 kings.”

ix. Limitation [1(d)] – if a second different set of information associated with the identified player is tracked and the message trigger condition occurs in association with the identified player: (i)

determine, based at least in part on the second set of tracked information, a second, different message, and (ii) output the determined second message to the identified player.

Petitioner points out, as we discussed in our claim construction, that “the message trigger condition” in 1(d) requires “[t]he same message trigger condition must be used because this limitation makes a reference back to ‘[a] message trigger condition’ first recited in the previous claim limitation.”

Pet. 37. Petitioner argues that Aristocrat teaches the same “end-of-game” message trigger condition can also output a different message to the player, specifically, a message awarding a bonus game when player performance in the form of wins and losses are tracked. *Id.* (citing Ex. 1004, 3:3–16, 4:25–29, 17:4–9, 30:20–23, Fig. 27). Aristocrat’s Figure 27 is reproduced below.



Aristocrat’s Figure 27, including “Mr. Cashman,” informs the player that “you have not had a win in 10 games play the bonus feature for free!” Considering Aristocrat’s disclosure, Mr. Crane testifies that “[f]or example, this bonus-game award may result from a losing streak. (*Id.*, (showing bonus-game message 165)). Thus, the gaming system tracks the player’s performance, whether the player has won a bonus game (usually

within the span of a period of time or a certain number of games).”

Ex. 1003 ¶ 102 (citing Ex. 1001, 17:4–9, 30:20–23, Fig. 27).

Mr. Crane provides two exemplary tables to illustrate relationships disclosed by Aristocrat between a trigger condition, tracked information, and a message output to a player:

Elements	Trigger Condition	Tracked Information	Message
1(c) and 1(d)	End of game	(1) Player’s losses	(1) Player would have won if she had bet on more lines
		(2) Player’s bets	(2) Encouraging player to keep playing
		(3) Whether player has earned a bonus game based on her own play	(3) Awarding a bonus game
		(4) Whether player is playing free games (and how many remain)	(4) Free game play is over (represented by shape of character)

Mr. Crane explains that the first table, reproduced above, “summarizes how Aristocrat discloses both elements 1(c) and 1(d) under an end-of-a-game message trigger condition.” *Id.* ¶ 106. The second of Mr. Crane’s tables is reproduced below.

Elements	Trigger Condition	Tracked Information	Message
1(c) and 1(d)	Rate of play falls below a threshold	Player’s rate of play	Player’s play is too slow
		Player’s rate of play and probability of hitting a jackpot	A progressive jackpot is imminent

The second table, according to Mr. Crane, “summarizes how Aristocrat discloses both elements 1(c) and 1(d) under a message trigger condition that the rate of play has fallen below a particular threshold.” *Id.* ¶ 109. We reproduce these tables, in particular, because they are part and parcel of what

Patent Owner objects to in their arguments discussed below, that is—
Petitioner’s obligation to specify where each element of the claim is found in
the prior art patents or printed publications relied upon under 37 C.F.R.
§ 42.104(b).

(b) Patent Owner’s Arguments

Patent Owner makes several arguments which we address in turn.
First, Patent Owner argues that Petitioner has failed to show where each
element of the claims is shown in the prior art under 37 C.F.R. § 42.104(b),
specifically, because Mr. Crane’s tables indiscriminately “seek[] to apply
‘any two combinations using the same message trigger consideration (either
end of game or rate of play falling below a threshold) [] to satisfy’ elements
(c) and (d).” PO Resp. 16 (quoting Pet. 37). Second, Patent Owner argues
that “the Petition fails to show that the prior art teaches that first and second
determined messages are output to a player when the predicate conditions of
elements (c) and (d) are met.” *Id.* at 18. Third, Patent Owner argues that
“the Petition fails to show that Aristocrat, considered either alone or in
combination with Boushy, generates its messages on the basis of tracked
“information associated with the identified player” as recited in limitations
1(c) and 1(d). *Id.* at 27.

*i. Whether Petitioner has shown where each element
of the claims is found in the prior art under 37
C.F.R. § 42.104(b)*

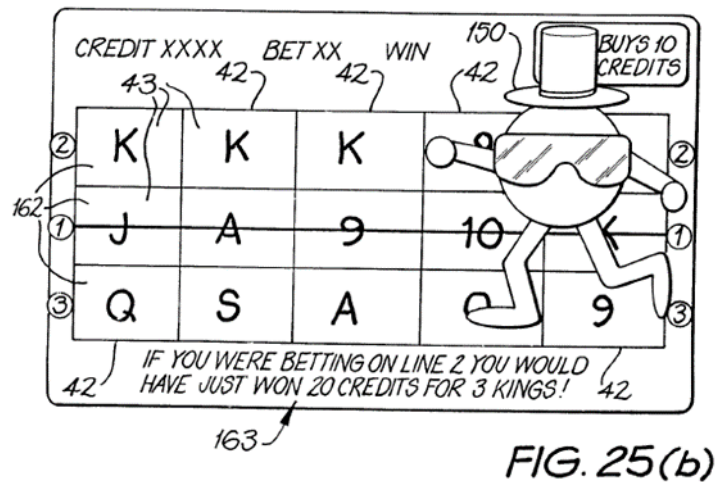
Pointing to Petitioner’s obviousness arguments based on Aristocrat,
Patent Owner argues that “[i]t is unfair to Patent Owner and the Board for
Zynga to apply prior art in such a haphazard fashion.” PO Resp. 16. Patent
Owner argues specifically that the Petition fails under 37 C.F.R. § 42.104(b)
because,

it seeks to apply “any two combinations using the same message trigger consideration (either end of game or rate of play falling below a threshold) [] to satisfy” elements (c) and (d). Pet. at 37. The Petition refers to still other messages that do not appear in Table 1 or Table 2 without explaining how these messages might be related to the claims’ tracked “information” or “message trigger condition[s].” See Pet. at 16 (graphical examples), 34 (a player would have won with another Ace).

Id. We disagree. In our view, Petitioner makes coherent arguments and provides cogent supporting analysis based on objective evidence as to the specific disclosure in Aristocrat that relates to the limitations in elements 1(c) and 1(d). The tables shown and discussed above, are reasonably clear in mapping several examples from the disclosure in Aristocrat to the claimed “trigger condition,” “tracked information,” and “message.” Patent Owner, however, asserts that these tables and the related arguments and analysis are indiscriminately applied to elements (c) and (d), but this is not so. *Id.* at 15.

Petitioner’s tables aptly summarize several of the embodiments and examples disclosed by Aristocrat. For example, the first table, above, sets the trigger condition as “end-of-game,” a variety of “tracked information,” and, for each piece of “tracked information,” a corresponding “message.” The Petition explains, for example, that “Aristocrat discloses that game states include an end-of-a-game state, associated with paying the player’s winnings, if any, after the reels stop.” Pet. 33 (citing Ex. 1003 ¶ 93; Ex. 1004, 3:23–25). Given this “trigger condition,” as we discussed above with respect to limitation 1(c), the Petition points to Aristocrat’s Figure 25(b), reproduced below, to show that a player’s losses can be “tracked information,” and the end-of-a-game trigger can cause a corresponding “message” to be outputted informing the player how they could have won by betting differently. See *id.* at 34 (The Petition stating that “[t]o

determine and output this message, the gaming system tracks the player's wins and losses.") (citing Ex. 1004, 23:1–9).



Aristocrat's Figure 25(b), including the "Mr. Cashman" feature, illustrates a message to the player that "if you were betting on line 2 you would have just won 20 credits for 3 kings."

Petitioner's tables merely summarize and consolidate, in table form, various disclosure in Aristocrat that Petitioner asserts meets the requirements of limitations 1(c) and 1(d). It is true, as Patent Owner argues, that Petitioner asserts a number of different combinations of tracked information and corresponding messages in Aristocrat to satisfy limitations (c) and (d). But it is not unclear, or indiscriminate, what the Petition asserts, namely that there are a variety of trigger conditions disclosed in Aristocrat, as well as tracked information and related messages that can be associated with, for example, the specific trigger condition of an "end-of-game" state.

Patent Owner argues further, with respect to the motivation to combine, that Petitioner's approach is "haphazard" because "[t]he Petition identifies, among these embodiments, other messages, namely, 'offers of prizes or bonus games,' a 'bonus reel,' and a 'busker' (*id.* at 63), that the

Petition omits from its element-for-element analysis of the Challenged Claims.” PO Resp. 17 (citing Pet. 32–41).

We find Petitioner’s motivation to combine the alternative embodiments and messages disclosed in Aristocrat persuasive. We appreciate that not all examples and embodiments disclosed in Aristocrat and identified by Petitioner have been applied to the elements in the claimed invention. Mr. Crane, however, identifies certain disclosures in Aristocrat to support his testimony and Petitioner’s reasoning explaining why “a POSITA would have found it obvious to combine various embodiments of Aristocrat.” Ex. 1003 ¶ 160. Mr. Crane testifies that because Aristocrat teaches a software program for implementing the gaming system, “different ways of delivering messages represent design choices; they are not the results of some technical limitations or system requirements.” *Id.* ¶ 161. Mr. Crane points out, persuasively, that “Aristocrat itself discloses that ‘it is within the capabilities of the noninventive worker in the art to introduce the methodology [of the embodiments] on any standard microprocessor-based gaming machine or gaming console by means of appropriate programming.’” *Id.* (citing Ex. 1004, 15:7–11).

Based on the complete record now before us, we find that informational messages implemented based on tracked player information are not so unique such that a person of ordinary skill in the art could not have effectively provided various desired messages based on certain tracked player information. We understand Petitioner’s point to be that a variety of messages, including those in the tables above, as well as others, could result from specific information tracking and trigger events. Mr. Crane summarizes, explaining persuasively that a person of ordinary skill in the art “would have recognized that combining these embodiments increases the

variety of messages and their delivery representations, which in turn increases entertainment value for the player. Combining different embodiments and increasing message variety help increase the player's interest in the game.” *Id.* ¶ 162, *see also KSR*, 550 U.S. at 417, (“[W]hen a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.”).

Considering both parties arguments and evidence, we are persuaded that Petitioner has fulfilled its obligations under 37 C.F.R. § 42.104(b) to show where each element of the claim is found in Aristocrat.

ii. Whether Aristocrat teaches that first and second determined messages are output to a player when the predicate conditions of elements (c) and (d) are met

Patent Owner argues that

the Petition fails to show that the prior art, even if considered in combination, discloses all claim elements, particularly, the requirement that a “determined first message” and a “determined second message” both are output to a player (steps (c)(ii) & (d)(ii)) when the predicates of elements (c) and (d) both occur.

PO Resp. 19. In other words, Patent Owner argues that “Aristocrat outputs only a single message—not a ‘determined first message’ and a different ‘determined second message’—to a player.” *Id.* at 19–20.

Petitioner disputes that claim 1 requires two output messages in every instance. Pet. Reply 1. Petitioner asserts that “[w]hile the claimed system and method must have the capability to output two messages, these messages do not have to be output following the same single instance or occurrence of a trigger condition.” *Id.* Petitioner argues specifically that Patent Owner’s “limiting interpretation effectively reads the word ‘if’ out of

limitations (c) and (d).” *Id.* at 5 (citing Ex. 1001, 75:42–57, 76:40–58; Ex. 1010, 77:6–22).

The heart of Patent Owner’s argument here goes to our claim construction. Patent Owner is correct that claim limitations (c) and (d), require “that a ‘determined first message’ and a ‘determined second message’ both are output to a player (steps (c)(ii) & (d)(ii)) *when the predicates of elements (c) and (d) both occur.*” PO Resp. 19 (emphasis added). Petitioner is correct that the use of the specific words “if” and “condition” make these conditional clauses, in that the “gaming system” recited in claim 1 does not require that both conditions occur at the same time. *See* PO Supp. Claim Const. Brief (“Yes, limitations 1(c) and 1(d) are conditional limitations.”). To be clear, limitations (c) and (d) are on one hand alternatives, it may be that only a first set of information is tracked, and not a second different set of information. On the other hand, both conditional limitations may also be satisfied. Thus, what the claim requires, is that either, or both conditional limitations occur. And, as Petitioner acknowledges, Aristocrat’s “system must include instructions that are at least capable of performing steps (a), (b), (c), and (d) to satisfy claim 1.” Pet. Supp. Claim Const. Brief 5.

As discussed in our claim construction, where we depart from Patent Owner’s interpretation is the implicit assertion that the claim language, i.e. limitations (c) and (d), require the first and second messages be output together based on the same conditional trigger occurrence (when the conditions precedent are met). PO Resp. 18–26, *see also* PO Supp. Claim Const. Brief 3 (Patent Owner arguing that “[n]o claim language states that different messages are output at different times, and Petitioner identifies none.”). In this way, Patent Owner’s interpretation is that the claim

language requires the first and second messages be output together, at the same time, based on the same occurrence of a message trigger. From this, Patent Owner argues that Aristocrat only discloses outputting a single message for any occurrence of a message trigger condition. *See* PO Resp. 20 (Patent Owner contends that “a POSITA would recognize that Aristocrat’s system outputs a single message to a player using the state machine.”) (citing Ex. 1004, FIG. 12).

We do not understand the claims to require a temporal relationship between the message trigger condition recited in limitations (c) and (d), or the first and second output messages, assuming that both conditional limitations occur. Section II.C.1. The claims do require the same “message trigger condition,” for example, the end of a game condition, but, again, the claims do not require the ‘message trigger condition’ to be a single event that simultaneously triggers the outputting of the first and second messages. *Id.* The claimed “message trigger *condition*” is a condition that can be satisfied. And, as discussed in our claim construction, we agree with Petitioner that “the end of a game and the end of another game, for instance, both represent the same trigger *condition*—the end of a game.” Pet. Reply 3–4. The claim language also does not require that the first and second messages be output at any particular time or in any order.

Our understanding of the plain language of the claim is supported by the specification of the ’064 patent. For instance, Figure 11A, reproduced below, describes an END_OF_GAME trigger condition and the output being the “next message in queue.”

TRIGGER CONDITION FOR OUTPUTTING MESSAGE 1100A	MESSAGE(S) TO OUTPUT 1102A
(END_OF_GAME) AND (PRIORITY_OF_NEXT_MESSAGE_IN_QUEUE >= 300)	NEXT MESSAGE IN QUEUE
(PLAYER_EARNS_COMP_POINTS) AND (NEW_NUMBER_OF_COMP_POINTS > 2000) AND NOT(MESSAGE_ALREADY_OUTPUT (STATUS-5-56189345))	STATUS-5-56189345
(BONUS_ROUND_OVER) AND (HATCH_EGG_BUTTON_PRESSED_AFTER_ROUND_OVER > 3 TIMES)	INSTR-3-642985152
(PLAYER_CASHES_OUT_OF_GAME_MACHINE)	NEXT 3 MESSAGES IN QUEUE
(PLAYER_IS (PLAYER-2-02634555)) AND (DATE = 7/15/2002) AND (TIME_OF_DAY = 3:05PM)	COMBO-2-84151451
(PLAYER_WINS_PRIZE) AND (PRIZE_VALUE >= 100 COINS)	ANY PROMOTIONAL MESSAGE
(GAMES_PLAYED_WITHOUT_ENTRY_INTO_BONUS_ROUND = 100) AND (NOT (MESSAGE_ALREADY_OUTPUT (OFF-7-23480923)) OR (MESSAGE_IN_QUEUE (OFF-8-23480923)))	OFF-7-23480923

FIG. 11A

Figure 11A describes various messages to output at 1102A, based on certain trigger conditions at 1100A. A “queue” means that there are multiple messages waiting to be output, and for the occurrence of the END_OF_GAME trigger, the system only outputs the “next message in queue.” We note that the PLAYER_CASHES_OUT_OF_GAME_MACHINE trigger condition will output the next three messages in queue. So, based on a single trigger occurrence, the specification provides examples of one, and alternatively, multiple messages being output to a player based on a single trigger condition.

Patent Owner argues that “Aristocrat’s system outputs only *one* message to the player when any message trigger condition occurs.” PO Resp. 19. This interpretation is not consistent with Aristocrat’s teachings. As well-summarized by Petitioner’s table, again reproduced below, Aristocrat teaches four different messages that can be output to a player based on the same “end of game” trigger condition.

Elements	Trigger Condition	Tracked Information	Message
1(c) and 1(d)	End of game	(1) Player's losses	(1) Player would have won if she had bet on more lines
		(2) Player's bets	(2) Encouraging player to keep playing
		(3) Whether player has earned a bonus game based on her own play	(3) Awarding a bonus game
		(4) Whether player is playing free games (and how many remain)	(4) Free game play is over (represented by shape of character)

Petitioner's table illustrates that four different messages can be output based on an end of game trigger condition, depending on what the tracked information entails.

We also agree with Petitioner that even if the claims are understood to encompass the output of two messages based on the single occurrence of a trigger condition, Aristocrat teaches this as well. Pet. Reply 12. Aristocrat describes that

[i]n cases where more than one different function or feature is *triggered from the same bet*, the functions or features will commence one at a time such that as one completes the next one will commence. All of the triggered functions or features will complete before the player is given the opportunity to bet on another game."

Ex. 1004, 6:9–13 (emphasis added). Aristocrat similarly states, "[i]n cases where more than one of the different Mr. Cashman features are triggered from the same bet, they will commence one at a time such that as one completes the next one will commence." *Id.* at 26:34–36. This disclosure in Aristocrat is not unlike the specification of the '064 patent which contemplates not just outputting one message based on a trigger condition,

but further describes that messages may be output simultaneously and also at different times.

According to some embodiments, a plurality of messages may be output at a game machine.

- (i) Two messages may be output simultaneously.
- (ii) A first message may be output, and then a second message may be output.

Ex. 1001, 61:42–46. Patent Owner argues further that Petitioner’s arguments with respect to Aristocrat’s disclosure of multiple messages based on the same bet, is a new argument. PO Sur-Reply 16, Tr. 100:1–4. Patent Owner asserts that in the Reply, under a “new theory, Petitioner asserts that Aristocrat discloses multiple ‘functions or features’ that are triggered from a ‘same bet.’” *Id.* Because this argument and the related disclosure in Aristocrat was not raised in the Petition, Patent Owner argues that it is an improper new invalidity theory. *Id.* Again, we disagree.

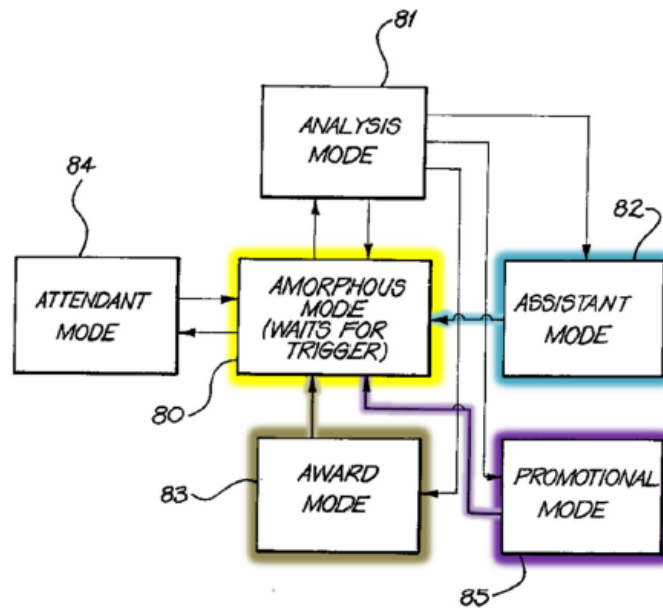
Petitioner argued in the Petition that Aristocrat teaches (a) a trigger condition, for example “end-of-game” or “rate-of-play falls below a threshold,” and for each of these conditions, (b) tracks certain information, for example, “wins/losses” and “player’s bets,” and a player’s “rate-of-play.” Pet. 36, 39–40. With respect to the first message being output, Mr. Crane explained that in one scenario taught by Aristocrat, based on the end-of-game trigger condition, “Aristocrat can also encourage the player to continue playing by ‘reinforc[ing] a near miss in a game by telling the player that one or more Ace would have won them 100,000 credits.” Ex. 1003 ¶ 95 (quoting Ex. 1004, 18:27–30). Here, the tracked information is the player’s bets. For the second message being output, also based on the end-of-game trigger condition, Mr. Crane explains that “[t]he character may

award a bonus game if the player has not earned a bonus game through the player's own play.” *Id.* ¶ 102 (citing Ex. 1001, 17:4–9). Here, the tracked information is the player's performance. The Petition did, therefore, provide argument supported by evidence and testimony as to why and how Aristocrat disclosed two different messages being output based on the same “message trigger condition.”

We appreciate that the Petition did not include an example of two different messages being output based on the *same occurrence* of a trigger condition as Patent Owner argues is required. *See* PO Resp. 19 (“But Aristocrat's system outputs only *one* message to the player when any message trigger condition occurs.”). However, this interpretation of the claims was first raised by Patent Owner in its Response. Under the circumstances here, Petitioner is not, in the Petition, required to be so prescient as to determine and address every conceivable claim interpretation and argument that a Patent Owner might assert in the Response. In our view, Petitioner is entitled to respond to the argument that the “message trigger condition” as Patent Owner interprets it, is the same occurrence of the message trigger condition. And, Petitioner has done this in two ways in their Reply, first arguing persuasively that Patent Owner's interpretation is incorrect, and even if correct, showing an example as to why this interpretation proffered by Patent Owner, is in fact taught by Aristocrat. *See* Pet. Reply 12 (Petitioner explaining that, “[i]n cases where more than one different function or feature is triggered from the same bet, the functions or features will commence one at a time such that as one completes the next one will commence.”) (quoting Ex. 1004, 6:9–11). Finally, contrary to Patent Owner's argument, Petitioner does not allege that the “player's bets” is the message trigger condition, the “player's bets” is the tracked

information. PO Sur-Reply 16–17. This tracked information and the multiple output messages are described in context in Aristocrat as “triggered functions or features,” which logically follow from an end-of-game trigger condition.

Next, considering Aristocrat’s annotated Figure 12 reproduced below, Patent Owner argues that “Aristocrat discloses that each mode outputs a *single message* and thereafter returns to the amorphous mode 80 (*yellow*).”



Aristocrat (Ex. 1004), FIG. 12 (annotated)

Aristocrat’s Figure 12 as annotated by Patent Owner illustrates a state machine that includes amorphous mode 80, outlined in yellow, award mode 83, in green, assistant mode 82, in blue, and promotional mode 85, in purple. This argument again incorrectly assumes that “the trigger condition” for the first and second messages, as claimed. must be the same occurrence of the “trigger condition,” an interpretation that we have rejected. To the extent the trigger condition could be construed as the same occurrence of the trigger condition, Aristocrat, read in context does not, in its discussion with respect Figure 12, expressly state that all triggered messages must be a

single message. Indeed, there is at least the implication that multiple messages can occur in assistant mode 82, and award mode 83. Ex. 1004, 23–25. We acknowledge that Aristocrat does state, for example, that “[o]nce a single promotional message has been given, the state machine will undergo a transition to Amorphous mode 80.” *Id.* at 25. However, Aristocrat discusses with respect to assistant mode 82 that “[t]his mode might also offer suggestions on optimizing returns if the player is rejecting high return options or not maximizing their chances of progressive prizes. Once the advice has been offered, the state machine will return to Amorphous mode 80.” *Id.* at 24. The word “suggestions” is plural and there is no caveat here that “advice” must constitute only a single message, in fact the use of the word “suggestions” implies that multiple messages could be included in the “advice” provided to the player. This is consistent with other disclosure in Aristocrat, discussed above, that does in fact teach providing multiple messages based on a single triggering event. *See id.* at 26:34–36 (“In cases where more than one of the different Mr. Cashman features are triggered from the same bet, they will commence one at a time such that as one completes the next one will commence.”).

Even if Aristocrat did not expressly disclose multiple messages being provided to a player based on a single trigger condition, we do not see a great logical leap for a person of ordinary skill to provide one message, or alternatively multiple messages, based on a single trigger condition. *In re Preda*, 401 F.2d 825, 826 (CCPA 1968) (“[I]t is proper to take into account not only specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.”). Mr. Crane testifies that “different ways of delivering messages represent design choices; they are not the results of some technical limitations or

system requirements. Thus, it would have been obvious to a POSITA to combine various embodiments or aspects thereof.” Ex. 1003 ¶ 161. Making such software changes, e.g., to deliver one or more messages, on a computer program would have been well within the level of ordinary skill in the art. Petitioner’s declarant, Mr. Crane explains that “[i]t was well known by 2002 that software programs running on standard microprocessors execute a plurality of instructions stored in a memory device . . . [i]n this standard microprocessor architecture, program instructions are stored in a combination of ROM and RAM, and variables or states that change under the control of the microprocessor’s program are stored in RAM.” Ex. 1003 ¶ 75.

iii. Whether Aristocrat teaches using tracked information “associated with the identified player”

Patent Owner argues that the “Petition fails to show that Aristocrat, considered either alone or in combination with Boushy, generates its messages on the basis of tracked ‘information associated with the identified player’” as recited in the independent claims. PO Resp. 27. Patent Owner points out that the ’064 patent describes tracking information associated with an identified player and providing specific messages to the player based on the tracked information. *Id.* at 28. For example, Patent Owner argues that based on the tracked information, “a gaming system may build a queue of messages 328B (FIG. 14 below) to be output to the identified player at an appropriate time.” Patent Owner’s annotated version of Figure 14B is reproduced below.

328B

POSITION IN MESSAGE QUEUE 1400B	MESSAGE TO OUTPUT 1402B	PRIORITY OF MESSAGE 1404B
1	STATUS-4-56189345	456
2	HYP-3-093275126	321
3	PROMO-1-85923475	289
4	INSTR-1-642985152	95

**'064 Patent (Ex. 1001), FIG. 14B
(annotated)**

Figure 14B depicts a table illustrating the priority of messages 1404B to be output from the message queue database 328B to a player. Ex. 1001, 29:29–36. According to Patent Owner “where the system determines to output multiple messages in response to a message trigger condition (FIG. 11A, *orange*), the system would output the highest-priority messages from the message queue database 328B (also *orange* in FIG. 14B). PO Resp. 29 (citing Ex. 1001, 29:43–50).

Patent Owner’s specific arguments here are two-fold, first reiterating that “Aristocrat has no disclosure to suggest that the system outputs a plurality of messages when either of Petitioner’s so-called ‘message trigger conditions’ occur.” *Id.* Second, that “Aristocrat discloses that its system outputs these messages simply because the game control system determined that it arrived at a certain state, not because the control system tracked specific information associated with an identified player.” *Id.* at 30 (citing Ex. 2018 ¶¶ 123–124).

We have discussed in significant detail that, similar to the ’064 patent disclosure that Patent Owner points to, Aristocrat does in fact teach output of a plurality of messages in response to the same trigger condition. *See, e.g.,*

Ex. 1004, 26:34–36 (“In cases where more than one of the different Mr. Cashman features are triggered from the same bet, they will commence one at a time such that as one completes the next one will commence.”). The more pertinent question here, is whether Aristocrat’s message is output based on tracked player information, or simply a game state, as Patent Owner argues. Patent Owner argues specifically that “Aristocrat does not disclose that the player’s identity or information tracked ‘in association with the player’ is a factor in generation of this message.” PO Resp. 31.

As an initial matter, the claims do not require ascertaining a player’s personal identity. Claim 1, for example, recites “at least one input device to (a) identify a player placing at least one wager on at least one play of a game.” Ex. 1001, 75:36–39. The plain meaning of this limitation simply requires determining that a bet has been placed on a machine and a game has been started. The person who placed the bet and is playing the game is then the “identified player.” And the following clause “(b) track a first set of information associated with the identified player,” simply tells us that the “first set of information” must be “associated” with *the player* that made the bet. *Id.* at 75:40–41. Notably, Patent Owner does not point to any support in the ’064 patent specification that the “identity” of a player must be determined by personally identifying information such as name, address, etc. PO Resp. 31. In fact, claim 4, which depends directly from claim 1, recites in part that “tracked information associated with the identified player is at least one selected from the group consisting of: an identity of a player, . . . a current activity of the player,” and “wagering information associated with the player.” Ex. 1001, 76:4–13. In other words, we understand from claim 4 that a player can be identified from specific activities of that player, not simply from personal identification data in a database for example.

Considering the plain and ordinary meaning of the claims, Petitioner's position is the more persuasive, namely, that the claims are not limited to "***non-gameplay-related*** player information like the player's identity or birthday." Pet. Reply 17. Petitioner persuasively argues that the claims "do not require that the tracked information be player information that is distinct from the player's gameplay." *Id.* at 18. Given the proper interpretation of the claims, Petitioner points to specific examples in Aristocrat "explaining that 'player bets,' 'player' wins and losses, and 'player activity' are tracked for purposes of generating appropriate messages." *Id.* at 19 (citing Ex. 1004, 20:24–31, 24:13–15, 30:5–13). We agree with Petitioner that to track player activity such as bets, wins, and losses, and to provide appropriate messages as described in Aristocrat, the bets, wins and losses, for example, must be logically associated with an identified player. Aristocrat describes the relationship between a certain player and their activity, e.g., a wager, where

[i]n preferred embodiments, the trigger is random and weighted by the desired hit rate of the feature. *It is preferably dependent upon the player's bet, and may or may not be dependent upon the size or type of the player's bet.* For example, if a specific Mr. Cashman feature is required to be triggered to be initiated on average once in every 200 games played, then for every time the player initiates a game by pressing a bet button a random number will be selected in the range 1 to 200. If the number 1 is selected then the Mr. Cashman feature will be triggered.

Ex. 1004, 5:5–12. It is clear reading this example that "the player's" is a possessive noun, as modified by "bet," and describes in plain language a wagering activity by that player—and thus "identif[ies] a player placing [at least] one wager" as recited in claim 1.

Indeed, the examples in Aristocrat show tracking a player's activity, including input and bets that results in outputting a message to that player,

for instance the message that, “[i]f you were betting on line 2 you would have just won 20 credits for 3 kings!” Ex. 1004, Fig. 25A. Aristocrat’s example here is essentially the same as the examples in the ’064 patent detailing the many activities of a player such as “winning a designated number of games” that results in outputting a message, such as an “activity-benefit offer.” Ex. 1001, 33:38, *see id.* at 32:17–19 (“An activity-benefit offer may be output to a player, and the player may have an opportunity to respond by accepting or rejecting the offer.”).

Patent Owner additionally argues that Petitioner’s Table 4, reproduced below, illustrates that Aristocrat’s “messages are generated based on state of the gaming console generally, not based on information tracked in association with an identified player.” PO Resp. 33 (citing Ex. 2018 ¶ 125–126).

Elements	Trigger Condition	Tracked Information	Message
1(c) and 1(d)	Rate of play falls below a threshold	Player’s rate of play	Player’s play is too slow
		Player’s rate of play and probability of hitting a jackpot	A progressive jackpot is imminent

Petitioner’s Table 4 sets the trigger condition as “Rate of play falls below a threshold” with the tracked information being a player’s rate of play,” and the message being that “Player’s play is too slow.” Pet. 40. According to Patent Owner, a person of ordinary skill in the art “would understand that the first ‘message’ entry in Table 4, that a message indicates the player’s rate of play is too slow, is output based on a state of the gaming console.” PO Resp. 33 (quoting Ex. 1004, 20:24–31).

Patent Owner’s argument is not convincing. First, the portion of the paragraph (Ex. 1004, 20:24–31) quoted by Patent Owner disregards the

rather significant introductory sentence, stating that, “[i]n one embodiment, the character must be kept alive *by the activities of the player*.” Ex. 1004, 20:23–24. Relying only on the subsequent prescribed functionality of the interface character, Patent Owner’s argument fails to acknowledge that the functionality of the interface character is dependent expressly on the “activities of the player.” *Id.*

Second, we do not find the testimony of Mr. Friedman in support of this argument compelling in light of the evidence of record. Mr. Friedman testifies that “the rate of play described in Aristocrat is dependent only on *how many times* in the past minute a particular game was played, but not dependent on *who* played those games.” Ex. 2018 ¶ 126. This testimony however contains no citation to the record, nor any technical or logical substantive explanation based on any evidence in the record. It is also contrary to the express disclosure in Aristocrat:

In one embodiment, the character must be kept alive *by the activities of the player*. For example, the character may disappear or cease to function or slow in function if the rate of play slows below a preset threshold, such as games per minute, or 100 credits per minute. This feature may also have progressive effects such that if the rate of play drops further (say less than 10 games per minute, or 60 credits per minute), functionality will reduce further and ultimately *if the player activity* drops to a critically low level (say less than 5 games per minute or 20 credits per minute), the feature may cease to function altogether.

Ex. 1004, 20:23–31. In this example, Aristocrat explains that the activity of the player determines the “rate of play.” *Id.* We acknowledge that the “rate of play” can also be dependent, for example, on the frequency of games played by the player. *Id.* But, without a player, “the rate of play” activity cannot logically occur. In summary, it is “the rate of play” that is the

specific information, or activity, “associated with the identified player” that is tracked in order to determine the character functionality in this example.

Overall, we are persuaded that Petitioner has shown that a person of ordinary skill in the art would have understood that Aristocrat teaches to “identify a player” placing a wager on a game, and also tracking information “associated with the identified player” as recited in claim 1.

(c) Conclusion as to independent claim 1

Based on the complete record before us and for the reasons expressed above, we are persuaded that Petitioner has shown by a preponderance of evidence that claim 1 is obvious over Aristocrat.

3. Dependent claims 2–6 and 8

Petitioner argues that dependent claims 2–6 and 8 would have been unpatentable over Aristocrat. Pet. 41–52. Petitioner relies upon Aristocrat to teach the additional limitations of claims 2–8. *Id.* For example, Petitioner argues that claim 2 is a Markush claim that depends directly from claim 1 and, because Aristocrat discloses at least one of the listed members of the recited Markush group, claim 2 would have been obvious in view of Aristocrat. *Id.* at 41 (citing *Multilayer Stretch Cling Film Holdings, Inc. v. Berry Plastics Corp.*, 831 F.3d 1350, 1363 (Fed. Cir. 2016)). Petitioner argues specifically that “Aristocrat discloses message trigger conditions based on the end of a game and the player’s rate of play falling below a threshold” that are “a gaming activity of the identified player,” as recited in claim 2. *Id.*

By way of another example, claim 3 depends directly from claim 1 and requires “the determined message is at least one selected from the group consisting of: a status message, an instructive message, a communication

message, a promotional message, an activity benefit offer, a hypothetical information message and a recommendation of a feature.” Ex. 1001, 75:65–76:3. Petitioner argues persuasively that “Aristocrat discloses messages triggered by the end of a game, such as (1) a message that the player could have won if she had bet on more lines, (2) a message encouraging the player to continue playing, (3) a message indicating the player has received a bonus game.” Pet. 42.

Patent Owner does not dispute that Aristocrat teaches the additional limitations recited in claims 2–6 and 8. *See generally* PO Resp.

As for each of dependent claims 2–6 and 8, we have considered Petitioner’s arguments and evidence set forth at pages 41–52 of the Petition, and find they demonstrate Aristocrat teaches or suggests all the limitations of these claims. Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that dependent claims 2–6 and 8 would have been obvious over Aristocrat.

4. Independent claim 9

Petitioner argues that “claim 9 is a method claim that includes limitations that are nearly identical to the limitations of system claim 1.” Pet. 52. For each of limitations 9[p]–[d], Petitioner refers specifically to the arguments for the corresponding limitations previously described in the Petition with respect to claim 1. *Id.* at 52–54.

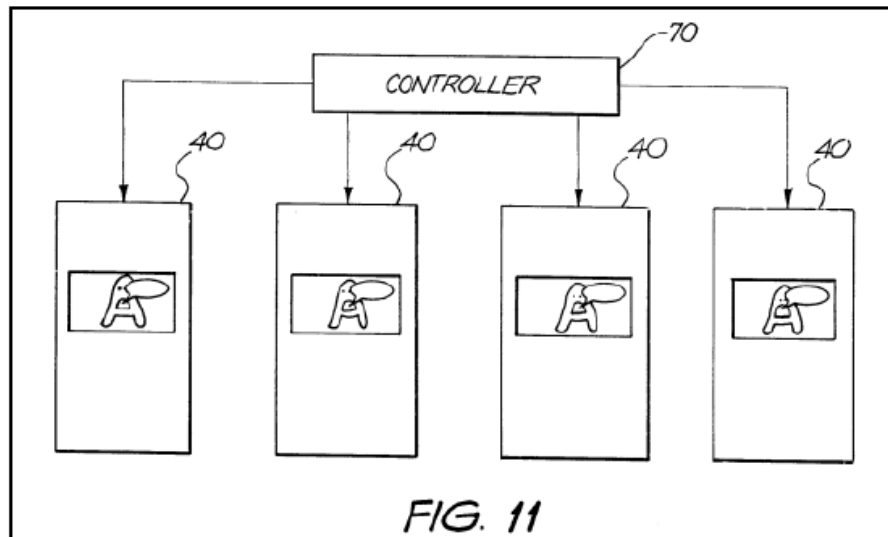
Patent Owner does not substantively differentiate the “method of operating a gaming system” in claim 9 from the “gaming system” recited in claim 1, relying on the same arguments for claim 9 as it did for claim 1. PO Resp. 14–35, *see, e.g., id.* at 19 (Patent Owner arguing that “[a]s explained, both claims [1 and 9] require that the first and second messages are output when the predicates of elements (c) and (d) both are met.”).

Having considered the entire record now before us, including the arguments and evidence presented by both parties, we adopt and incorporate Petitioner’s showing as to claim 9 as set forth in the Petition and summarized above, as our own. *See* Pet. 55–54. Accordingly, we are persuaded by Petitioner’s arguments and evidence that claim 9 would have been obvious over Aristocrat.

5. Dependent claims 10–14 and 16–18

Petitioner argues that dependent claims 10–14 and 16–18, which depend either directly or indirectly from claim 9, would have been unpatentable over Aristocrat. Pet. 54–62. Specifically, for claims 10–14 and 16, Petitioner relies upon Aristocrat to teach the additional limitations for the same reasons as discussed in the Petition with respect to claims 2–6 and 8. *Id.* at 54–57.

Dependent claims 17 and 18 present limitations not addressed with respect to claim 1. Claim 17 recites “[t]he method of claim 9, which is executed through a data network.” Ex. 1001, 78:13–14. Petitioner argues that “Aristocrat discloses that various gaming machines are connected in a data network through which the central controller is able to send data to multiple gaming machines that causes one or more of those machines to output certain messages.” *Id.* at 59 (citing Ex. 1003 ¶¶ 152–53). Referring to Aristocrat’s Figure 11, reproduced below, Petitioner argues that “Figure 11 exemplifies a series of LAN-interconnected gaming devices, such that actions performed on one computer affected the state of the game on others, specifically: ‘adjacent machines can be caused to display the results of a large win on a nearby machine.’” *Id.* (quoting Ex. 1004, 17:29–30).



Aristocrat's Figure 11 depicts a systems environment where “the central controller [70] controls the actions of the user interface on each connected machine [40], allowing coordination of modes for adjacent machines.”

Ex. 1004, 17:26–28.

Claim 18 depends from claim 17 and recites “wherein the data network is an internet.” Ex. 1001, 78:16–17. Mr. Crane testifies that because Aristocrat discloses a credit card reader to accept payment at gaming machines, “A POSITA would have recognized that such a reader requires an internet connection to the credit-card issuer to conduct transactions.” Ex. 100 ¶ 157. Mr. Crane further testifies that “by the priority date of the '064 patent in 2002, it was well known to a POSITA that a venue's internal data network could easily be connected to the internet.” *Id.* Mr. Crane's testimony on these points is unrebutted on this record.

Patent Owner does not address claims 17 and 18 or dispute that Aristocrat teaches these additional limitations recited in claims 17 and 18. *See generally* PO Resp.

As for each of dependent claims 10–14 and 16–18, we have considered, and on the complete record now before us and accept as our

own, Petitioner's arguments and evidence set forth at pages 54–62 of the Petition. Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that dependent claims 10–14 and 16–18 would have been obvious over Aristocrat.

6. Conclusion as to obviousness of claims 1–6, 8–14, and 16–18

We are persuaded that Petitioner's arguments and evidence have shown by a preponderance of the evidence that the challenged claims 1–6, 8–14, and 16–18 would have been obvious over Aristocrat.

E. Ground 2: Claims 1–6, 8–14, and 16–18– Obviousness over Aristocrat and Boushy (Ex. 1005)

On the complete record before us, Petitioner has shown by a preponderance of the evidence that claims 1–6, 8–14, and 16–18 would have been obvious over Aristocrat, therefore we need not reach the ground combining Aristocrat and Boushy. For purposes of completeness however, we address the combination with Boushy.

1. Boushy (Ex. 1005)

Boushy is titled “National Customer Recognition System and Method” and issued June 2, 1998. Ex. 1005, codes (54), (45). Boushy relates to “a system and method for implementing a customer tracking and recognition program that encompasses customers’ gaming and non-gaming activity alike at all casino properties affiliated with a casino company.” *Id.* at 2:6–10. “Customer information is input to a management system associated with each affiliated casino property, updated to a patron database, and made available to each casino property as needed.” *Id.* at 2:10–13. “On-line access to a customer’s activities at all of its casino properties allows the casino company to implement cross-property incentive programs,

manage customer offer programs more effectively, and provide more personalized services to its customers.” *Id.* at 2:56–60. Among other things, Boushy discloses a system that includes “a slot monitoring system (SMS) 262” for “[a]utomatic bet tracking at slot machines 130” which is “accomplished through a card reader.” *Id.* at 5:53–58. “A customer inserts his or her identity card in the card reader to initiate bet tracking and removes it to terminate bet tracking.” *Id.* at 5:58–60.

2. Motivation to combine Aristocrat and Boushy

Petitioner argues that “because Aristocrat and Boushy both relate to tracking user information and providing personalized experiences in casinos, common industry knowledge supplied a reason to combine these references with each other.” Pet. 65 (citing Ex. 1003 ¶ 164). Where both references teach tracking user information, Mr. Crane testifies that a person of ordinary skill in the art “would have been motivated to combine Aristocrat with Boushy because both references are directed to enhancing the gaming experience of players in a gaming system.” Ex. 1003 ¶ 165. Mr. Crane explains that Boushy explicitly describes tracking player information so that “[c]ustomers are awarded points, based on their tracked activity at all affiliated casino properties . . . [t]his data is made available to employees at any affiliated casino property, as needed, to personalize customer services.” *Id.* (quoting Ex. 1005, Abstract). Considering Boushy’s disclosure of tracking player activity across various casinos, Petitioner reasons that “a POSITA would have recognized that connecting multiple gaming venues provides a certain and effective way in the form of larger jackpots to make the games more enticing to the players, which is an objective of Aristocrat.” Pet. 67 (citing Ex. 1003 ¶ 166).

Patent Owner argues mainly that “[t]he Petition also refers to Boushy’s disclosure of a national customer recognition system and method. Pet. at 29. This ancillary disclosure does not render the claims’ features obvious.” PO Resp. 34.

We are persuaded that Petitioner has provided sufficient articulated reasons supported by evidentiary underpinnings to explain why a person of ordinary skill in the art would have combined Aristocrat and Boushy.

3. Claim limitations [1(a)], [9(a)], and claims 17 and 18

For claim limitations 1(a) and 9(a) Petitioner relies on Boushy to the extent that Aristocrat does not disclose “identifying a player placing at least one wager on at least one play of a game.” Pet. 29. According to Petitioner “Boushy uses customer identification cards to monitor individual player’s “betting activit[ies].” *Id.* (citing Ex. 1005 1:14–15). Boushy describes specifically that it was well known that “[t]hese tracking programs often use the betting activity of a customer as the basis for awarding the customer complementary rooms, meals, event tickets, and the like (‘comps’).” Ex. 1005, 1:14–17. Considering Boushy’s ample disclosure of tracking a player’s bets, we are persuaded for the reasons set forth in the Petition that Boushy also teaches “to identify a player placing at least one wager on at least one play of a game,” as recited in claim limitations 1(a) and 9(a). Ex. 1001, 75:38–39, 76:35–36.

For claims 17 and 18, Boushy teaches a player tracking and recognition program that is executed over a data network such as “a local area network (LAN) at each affiliated casino property and a wide area network (WAN) for coupling data among the casino LANs.” Ex. 1005, 2:25–28. Boushy also discloses that “WAN 102 employs TCP/IP, an open communication protocol,” that is used on the internet. *Id.* at 6:51–52.

Overall, we have considered, and on the complete record made in this proceeding, accept as our own, Petitioner’s arguments and evidence that the combination of Aristocrat and Boushy also discloses all the elements of claims 1–6, 8–14, and 16–18. We have considered all arguments made by Patent Owner, and that Patent Owner raises the same and similar arguments against Aristocrat and Boushy that it raised against Aristocrat alone. These arguments do not undermine Petitioner’s persuasive showing. Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that dependent claims 1–6, 8–14, and 16–18 would have been obvious over Aristocrat and Boushy.

III. CONCLUSION⁷

For the reasons discussed above, we determine Petitioner meets its burden of establishing, by a preponderance of the evidence, that the challenged claims are unpatentable, as summarized in the following table:

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–6, 8–14, 16–18	103(a)	Aristocrat	1–6, 8–14, 16–18	
1–6, 8–14, 16–18	103(a)	Aristocrat, Boushy	1–6, 8–14, 16–18	

⁷ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
Overall Outcome			1–6, 8–14, 16–18	

IV. ORDER

For the reasons given, it is

ORDERED that, based on a preponderance of the evidence claims 1–6, 8–14, 16–18 of the '064 patent have been shown to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, any party to the proceeding seeking judicial review of this Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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Patent 8,795,064 B2

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