

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DRAFTKINGS INC., A DELAWARE CORPORATION,
Petitioner,

v.

INTERACTIVE GAMES LLC,
Patent Owner.

IPR2020-01109
Patent 8,956,231 B2

Before KEN B. BARRETT, GEORGE R. HOSKINS, and
FREDERICK C. LANEY, *Administrative Patent Judges*.

HOSKINS, *Administrative Patent Judge*.

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

ORDER
Denying Petitioner's Motion to Exclude Evidence
37 C.F.R. § 42.64

I. INTRODUCTION

DraftKings Inc., a Delaware corporation (“Petitioner”) filed a Petition (Paper 1, “Pet.”) pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of all claims 1–23 of U.S. Patent No. 8,956,231 B2 (“the ’231 patent”). Interactive Games LLC (“Patent Owner”) has opposed the Petition. We instituted the petitioned review (Paper 10, “Institution Decision” or “Inst. Dec.”).

Patent Owner filed a Patent Owner Response (Paper 20, “PO Resp.”) to the Petition. Petitioner filed a Reply (Paper 27, “Pet. Reply”) to the Patent Owner Response. Patent Owner filed a Sur-reply (Paper 30, “Sur-reply”) to the Reply.

Petitioner filed a Motion to Exclude Evidence (Paper 32). Patent Owner filed an Opposition (Paper 33). Petitioner filed a Reply (Paper 34).

An oral hearing was held, for which the transcript was entered into the record (Paper 38, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6(b)(4) and § 318(a). This Decision is a final written decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of claims 1–23 of the ’231 patent. We deny Petitioner’s motion to exclude evidence. We determine Petitioner has shown by a preponderance of the evidence that claims 1–23 are unpatentable.

II. BACKGROUND

A. *Real Parties-in-Interest and Related Proceedings*

Petitioner identifies three companies as the real parties-in-interest for Petitioner: itself; DraftKings Inc., a Nevada corporation; and SBTech

(Global) Limited. Pet. 1. Patent Owner identifies itself as the sole real party-in-interest for Patent Owner. Paper 4, 2.

The parties identify one judicial matter as related to this proceeding: *Interactive Games LLC v. DraftKings Inc.*, Case No. 1:19-cv-01105-RGA (D. Del.). Pet. 1–2; Paper 4, 2. There are also three other IPR proceedings filed on the same day as this proceeding, challenging other patents at issue in the litigation. *See* Pet. 2; Paper 4, 2.

B. The '231 Patent

The '231 patent concerns providing games, including casino games and other wagering games, on mobile devices such as cellular telephones, PDAs, and notebook computers. Ex. 1001, 1:15–28. It discloses various “authentication protocol[s] that may facilitate compliance with one or more regulatory requirements” to allow such games to be played on a mobile device. *Id.* at 40:61–67; *id.* at 36:13–25. The claims require three authentication protocols: device characteristic authorization, user authorization, and location authorization. *See, e.g., id.* at 76:3–15 (claim 1), 78:1–14 (claim 21).

Device characteristic authorization may include verifying that the device’s mac address or phone number corresponds to a device that was previously authorized for gaming during an initial sign up process. *Id.* at 37:39–42, 38:8–10, 38:40–50, 39:11–15, 40:24–30 (initial sign up process); *id.* at 42:14–31 (subsequent game session authorization). Device characteristic authorization may also include verifying the device’s external communication interfaces are disabled, thereby indicating the device is

being used in person (by a user located where the device is located) and not being controlled remotely. *Id.* at 41:52–55, 41:60–63, 77:12–14 (claim 18).

User authorization may include requiring the user to enter a user name and password previously established during an initial sign up process. *Id.* at 38:4–8, 38:40–50 (initial sign up process); *id.* at 43:5–12, 46:37–49 (subsequent game session authorization).

Location authorization seeks to ensure, for example, that the mobile device is located in a jurisdiction (such as the state of Nevada) where the provided games are legal. *Id.* at 36:44–63, 42:48–53. This may be accomplished with geofencing, for example. *Id.* at 36:64–37:14, 54:5–10.

The mobile device location determination may be repeated during a gaming session, to provide a desired level of confidence that the device continues to be located in a jurisdiction where the provided games are legal. *Id.* at 37:18–23, 41:31–42, 48:33–42, 52:31–36. In one embodiment, location checks may be performed periodically at pre-set time intervals, such as every 5 minutes. *Id.* at 49:64–67, 54:1–4. In another embodiment, “location checks may be made more frequent when a mobile device is near an edge of an approved area than when the device is far from an edge of an approved area.” *Id.* at 49:67–50:4, 54:18–36. For example, “a check may be performed every 5 minutes if a device in a previous check was near a border of a state,” or “every 10 minutes if a device was . . . far from an edge of a state.” *Id.* at 50:4–9, 54:36–39.

C. The Claims of the '231 Patent

The '231 patent lists twenty-three claims. Ex. 1001, 76:1–78:28. We reproduce illustrative claim 1 here:

1. An apparatus comprising:
 - a machine readable medium having stored thereon a set of instructions that are configured to cause a processor to:
 - determine that a device is authorized to use a gaming service based on one or more characteristics of the device other than location;
 - determine that a user of the device is authorized to use the gaming service;
 - determine that the device is associated with a first location in which gaming activity is allowed;
 - allow gaming activity based on the determination that the device is authorized, the determination that the user is authorized, and the determination that the device is associated with the first location;
 - determine a period of time relative to the determination of the first location after which a location redetermination of the device should be made, in which the period of time is determined based on a distance of the first location from a boundary of an area;
 - determine that the period of time has passed; and
 - in response to determining that the period of time has passed, determine whether the device is associated with a second location in which gaming activity is allowed.

Id. at 76:2–25.

The other independent claim, claim 21, recites an apparatus comprising “a mobile device” akin to the “device” of claim 1, and “a gaming service” akin to the “machine readable medium” and “processor” of claim 1. *Id.* at 77:26–78:2. The gaming service of claim 21 is configured to perform the same actions as the processor of claim 1. *Id.* at 78:1–23.

D. Prior Art and Asserted Grounds

Petitioner relies on seven prior art references (*see* Pet. 4–6):

Name	Reference	Date	Exhibit No.
Verteuil	US 2004/0219932 A1	Nov. 4, 2004	1006
Raith	US 2005/0101333 A1	May 12, 2005	1007
Cockerille	US 2006/0036874 A1	Feb. 16, 2006	1008
Nguyen	US 2006/0095790 A1	May 4, 2006	1004
Wun	US 2008/0055408 A1	Mar. 6, 2008	1010
Lewin	US 2008/0261688 A1	Oct. 23, 2008	1005
Morrison	US 2011/0034252 A1	Feb. 10, 2011	1009

Petitioner relies on seven grounds of unpatentability (*see* Pet. 6):

Claim(s) Challenged	35 U.S.C. §	References
1–5, 7, 21–23	103(a) ¹	Nguyen, Lewin
1–11, 13, 15–17, 21–23	103(a)	Nguyen, Lewin, Verteuil
12, 14	103(a)	Nguyen, Lewin, Verteuil, Raith
4, 18	103(a)	Nguyen, Lewin, Morrison
18	103(a)	Nguyen, Lewin, Wun
19	103(a)	Nguyen, Lewin, Cockerille

¹ The application that issued as the '231 patent was filed prior to the effective date of the amendments to 35 U.S.C. § 103 in the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (2011). Thus, we refer to the pre-AIA version of section 103.

20	103(a)	Nguyen, Lewin, Morrison, Wun, Cockerille
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E. Testimonial Evidence

Petitioner relies on the testimony of Mr. David Williams (Exhibits 1003 and 1056). Patent Owner relies on the testimony of Mr. Nick Farley (Exhibit 2005).

III. STATEMENT OF LAW

Petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail, Petitioner must prove unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A patent claim is unpatentable under 35 U.S.C. § 103(a) 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. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness, if made available in the record. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

IV. LEVEL OF ORDINARY SKILL IN THE ART

Petitioner contends a person having ordinary skill in the art pertaining to the '231 patent (POSITA) “would be a person with a Bachelor of Science Degree in Electrical Engineering or Computer Engineering or an equivalent field, with at least two years of academic or industry experience in the design and development of location-based applications and services and at least some coursework or other work experience in the wager-based gaming industry.” Pet. 10 (citing Ex. 1003 ¶¶ 97–99). Further: “Additional education could compensate for less practical experience and vice versa.” *Id.*

In the Preliminary Response, Patent Owner objected to Petitioner’s POSITA formulation, as underestimating the importance of wager-based gaming industry experience. *See* Inst. Dec. 8. We disagreed, and applied Petitioner’s POSITA formulation. *See id.* at 9–10. Patent Owner opted not to maintain this dispute in the Patent Owner Response. “Once a trial is instituted, the Board may decline to consider arguments set forth in a preliminary response unless they are raised in the patent owner response.” Consolidated Trial Practice Guide (Nov. 2019) (CTPG)², 52 (citing *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016)).

Thus, Petitioner’s POSITA formulation stands un rebutted. We also determine it is consistent with the '231 patent claims and the prior art of record. We adopt Petitioner’s POSITA formulation in this Decision.

² Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

V. PETITIONER'S MOTION TO EXCLUDE EVIDENCE

Petitioner has moved to exclude Mr. Farley's declaration (Exhibit 2005) providing testimony on behalf of Patent Owner. *See* Papers 32 & 34. Patent Owner has opposed. *See* Paper 33.

The parties disagree as to who bears the burden of persuasion concerning Petitioner's motion. Petitioner asserts Patent Owner must demonstrate the admissibility of Mr. Farley's testimony by a preponderance of the evidence, because Patent Owner is the proponent of this testimony. *See* Paper 32, 2–3 (citing *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 592 n.10 (1993)); Paper 34, 1. Patent Owner asserts "Petitioner bears the burden to show that it is entitled to the relief requested under 37 C.F.R. § 42.20(c)." Paper 33, 1.

We need not resolve this dispute. We conclude that, even if Patent Owner bears the burden of persuasion, Patent Owner has met that burden. Therefore we deny Petitioner's motion. Petitioner asserts three bases for the motion, which we consider in turn.

A. *Mr. Farley's Knowledge and Experience*

Petitioner asserts "Mr. Farley's knowledge and experience is below the level of" POSITA that we adopt in this Decision. Paper 32, 1; *see supra* Section IV (POSITA formulation). Petitioner therefore urges us to exclude Mr. Farley's testimony under Fed. R. Evid. 702. Paper 32, 1.

Pursuant to Fed. R. Evid. 702:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

“A person may not need to be a person of ordinary skill in the art in order to testify as an expert under Rule 702, but rather must be ‘qualified in the pertinent art.’” CTPG 34 (citing *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1363–64 (Fed. Cir. 2008)).

Petitioner asserts Mr. Farley lacks qualifications “in *the location-based field* of” the ’231 patent and the prior art at issue here, as set forth in our POSITA formulation. Paper 32, 4 (emphasis added); *see supra* Section IV (a POSITA has “at least two years of academic or industry experience in the design and development of location-based applications and services”). According to Petitioner: “Mr. Farley admitted that he does not have *any* experience in the development of location-based services or software applications,” despite claiming that he was “at least a [POSITA].” Paper 32, 4–5 & n.1 (emphasis by Petitioner) (citing Ex. 1055, 275:21–25; Ex. 2005 ¶ 26).

Petitioner contends that, while “Mr. Farley may have experience in ‘testing submitted systems for compliance with established rules and regulations,’” this does not qualify him as an expert “in the location-based service or software application field” of the ’231 patent. *Id.* at 5 (citing Ex. 2005 ¶ 11; *Lebron v. Sec’y of Fla. Dep’t of Children & Families*, 772 F.3d 1352, 1368 (11th Cir. 2014)). In particular, according to

Petitioner, “merely *testing* gaming applications is an entirely different endeavor than developing applications that leverage location-based services and applications,” and Mr. Farley even testified that his experience with testing game systems does not qualify him as an expert in the field of the ’231 patent. *Id.* at 5–6 (emphasis by Petitioner) (citing Ex. 1055, 54:4–6). Petitioner finally asserts Mr. Farley’s testimony concerning “the state of mobile phone technology” in 2004 is particularly suspect, because this testimony was “based on his recollection and experience as a consumer and user of cellular telephones,” not as “an expert in telecommunications systems or cellular telephone design.” *Id.* at 6–7 (citing Ex. 2005 ¶ 39; Ex. 1055, 108:24–109:23).

Patent Owner responds that Petitioner’s motion improperly addresses the weight to be given to Mr. Farley’s testimony, rather than its admissibility. *See* Paper 33, 2–3 (citing, *inter alia*, *MindGeek, s.a.r.l. v. Skky Inc.*, IPR2014-01236, Paper 45 at 23 (PTAB Jan. 29, 2016)).

Patent Owner further contends Mr. Farley’s knowledge and experience qualify him to testify from the perspective of a POSITA. *See id.* at 4–9. Patent Owner describes the ’231 patent as “directed to advances in wager-based gaming,” and contends that “[w]hile a technical understanding of general location-based applications may be valuable, an ordinary artisan in the relevant field would also understand and be familiar with wager-based gaming, including regulations, restrictions, and incentives pertinent to the gaming industry.” *Id.* at 4 (citing Ex. 1001, 36:14–29, 74:30–43). The principal prior art references at issue here (Nguyen and Lewin) are “wager-based gaming references,” and Petitioner’s obviousness rationales are “rooted directly in wager-based gaming,” according to Patent Owner. *Id.*

at 4–5 (citing Pet. 28–30). Our POSITA formulation also incorporates experience with wager-based gaming. *See id.* at 5–6; *supra* Section IV (POSITA has “at least some coursework or other work experience in the wager-based gaming industry”).

Patent Owner also asserts “Mr. Farley’s testimony is based on his technical expertise and specialized knowledge of wager-based gaming systems.” Paper 33, 6 (citing Ex. 2005 ¶¶ 4–13). According to Patent Owner, “Mr. Farley is familiar with location-based services and software applications as applied to mobile gaming devices.” *Id.* at 6–7 (citing Ex. 1005, 41:20–42:25, 243:21–244:14). And Patent Owner contends that “Petitioner’s attempts to twist Mr. Farley’s words against him are misleading and irrelevant.” *Id.* at 7–8 (discussing Ex. 1055, 54:4–6, 40:25–41:12, 55:13–58:4, 243:21–244:14). Patent Owner contends Mr. Farley has not had experience *developing* online gaming systems “not because he is unable to do so,” but “because he is a certified independent compliance evaluator” so it would be unethical for him to do so. *Id.*

Petitioner replies that the motion properly challenges the admissibility of Mr. Farley’s testimony, not merely the weight to be given to it. *See* Paper 34 n.1. Petitioner also insists that Mr. Farley’s experience in testing and evaluating electronic gaming devices that employ location-based services does not qualify him as an expert to testify concerning the design and development of location-based applications and services. *See id.* at 4–5 (citing Ex. 1055, 275:21–25).

Upon review of the foregoing, we note first that the nature and extent of Mr. Farley’s education and experience pertaining to the field of the ’231 patent are not in dispute. Mr. Farley earned a Bachelor of Engineering

degree in Electrical Engineering and Computer Science from Stevens Institute of Technology in 1987. Ex. 2005 ¶ 4, Att. A (pg. 2). Since then, he has accumulated over 33 years of experience in testing and evaluation of electronic gaming devices, pursuant to which he has examined thousands of such devices, including mobile and online gaming systems. *Id.* ¶¶ 6–7, 9, 13, Att. A (pgs. 1–2). In 2000 he founded Eclipse Compliance Testing, “an independent full-service regulatory compliance test laboratory and electronic gaming device consulting organization,” where he is the President. *Id.* ¶ 5, Att. A (pg. 1). He tests gaming devices and systems for compliance with “regulatory requirements . . . for variables, such as player location, identity, and age” when using “mobile phone apps,” as well as government classification of gaming systems. *Id.* ¶¶ 7–8, 11. Mr. Farley has “been called upon as an expert witness in dozens of litigations to assist triers of fact in determining game classification, permissibility and legal status of a variety of gaming devices and systems.” *Id.* ¶ 10, Att. A (pgs. 3–13).

Further, “now that the majority of mobile gaming is conducted on cellular telephones, most of [Mr. Farley’s company’s] testing is focused on the mobile gaming application software.” *Id.* ¶ 12. Thus, his experience includes testing whether mobile gaming systems comply “with geolocation and geofencing requirements to ensure that mobile gaming occurs only where permitted and does not occur where it is prohibited.” *Id.* ¶ 13.

Based on this education and experience, we conclude Mr. Farley is qualified as an expert to testify in the form of opinions concerning a POSITA’s knowledge and understanding in relation to the ’231 patent, Nguyen, Lewin, and the other prior art references at issue in this proceeding. This is because he possesses technical and other specialized knowledge that

will help us, as the trier of fact, to understand the evidence and determine facts in issue. *See* Fed. R. Evid. 702(a). There is “no requirement of a perfect match between the expert’s experience and the relevant field.” CTPG 34 (citing *SEB S.A. v. Montgomery Ward & Co.*, 594 F.3d 1360, 1373 (Fed. Cir. 2010)).

In particular, Mr. Farley’s extensive experience in testing mobile gaming systems for compliance with regulatory requirements, including player verification and location verification, are directly pertinent to the issues presented here. This is reflected, in part, by our formulation of a POSITA as having “at least some coursework or other work experience in the wager-based gaming industry.” *See supra* Section IV. Petitioner instead focuses on another POSITA qualification, “at least two years of academic or industry experience in the design and development of location-based applications and services.” *See id.* Petitioner is correct that Mr. Farley has no experience in *designing and developing* location-based applications and services. *See, e.g.*, Ex. 1055, 53:22–54:6, 275:21–25. Nonetheless, his extensive experience *testing* such systems, in the particular context of mobile gaming devices, provides him with technical and other specialized knowledge that will help us to understand the evidence and determine facts in issue.

The minimal gap here between Mr. Farley’s experience and our POSITA formulation does not justify jettisoning the entirety of Mr. Farley’s testimony, as Petitioner urges us to do. We address Mr. Farley’s particular testimony concerning the state of mobile phone technology in 2004 (Ex. 2005 ¶¶ 39–40) in the next section of this Decision. The remainder of Petitioner’s attack on Mr. Farley’s qualifications addresses the weight to be

given Mr. Farley's testimony, as opposed to its admissibility. We have considered his testimony, and assigned the appropriate weight to it in view of his background and the information being offered.

For the foregoing reasons, we deny Petitioner's motion to exclude the entirety of Mr. Farley's testimony on the basis that he lacks expert qualifications under Fed. R. Evid. 702.

B. Evidentiary Support for Mr. Farley's Opinions

Petitioner asserts "Mr. Farley's opinions are entirely unsupported and technically inaccurate," so we should exclude his opinions under Fed. R. Evid. 702. Paper 32, 1. In support, Petitioner contends Mr. Farley "does not cite to even one document outside of Petitioner's prior art references that might corroborate his opinions or otherwise demonstrate that they are grounded in 'sufficient facts or data' or that they are the 'product of reliable principles and methods.'" *Id.* at 7 (quoting Fed. R. Evid. 702, and citing 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.")).

Petitioner particularly objects to "Mr. Farley's opinions regarding the capabilities of mobile phone technology at the time the Nguyen reference was filed in 2004." *Id.* Here, Mr. Farley stated "the mobile phone technology at the time Nguyen was filed in [2004] could not support a player accessing and placing wagers with an internet casino," and "at the time Nguyen was filed . . . it would not have been possible to carry out the functions of Nguyen's system on a single device." Ex. 2005 ¶¶ 39–40; Paper 32, 7–8; *see also* Ex. 1004, code (22) (Nguyen was filed on Nov. 3,

2004). Petitioner cites the testimony of Mr. Williams as establishing that “Mr. Farley’s opinions regarding Nguyen disclosing a so-called ‘two-device system’ are based on [an] incorrect understanding of the state of mobile phone technology at the time Nguyen was filed.” Paper 32, 8 (citing Ex. 1056 ¶¶ 30–38).

Patent Owner responds that Petitioner’s motion improperly challenges the sufficiency, rather than the admissibility, of Mr. Farley’s testimony. *See* Paper 33, 2 (citing CTPG 79). Patent Owner asserts Petitioner “misses the point” in noting that Mr. Farley did not cite to documents outside of the Petition’s prior art, because “[t]here is no requirement that Mr. Farley cite to documents outside of the references raised by Petitioner in its alleged grounds.” *Id.* at 10–11. According to Patent Owner: “Mr. Farley’s background and experience in the wager-based gaming industry, including experience with location-based technologies and applications, provides sufficient basis for his opinions.” *Id.* at 10 (citing Ex. 2005 ¶ 2; Ex. 1005, 41:20–42:25, 243:21–244:14). Patent Owner finally asserts Mr. Farley’s opinions are accurate and supported, including those regarding mobile phone technology in 2004, and accuses Petitioner of overstating Mr. Farley’s position and mischaracterizing his testimony. *See id.* at 9–10 (discussing Ex. 2005 ¶ 39).

Petitioner replies that the motion properly challenges the admissibility of Mr. Farley’s testimony, not merely the weight to be given to it. *See* Paper 34 n.1. Petitioner also maintains Patent Owner’s opposition “fail[s] to overcome Mr. Farley’s own admissions showing that he is not qualified to offer expert testimony” concerning mobile phone technology in 2004. *Id.* at 3–4 (discussing Ex. 1055, 108:24–109:23).

We first agree with Patent Owner’s position that Mr. Farley’s education and experience qualify him as an expert to testify in the form of opinions concerning what would have been technologically known and available to a POSITA in relation to the ’231 patent, Nguyen, Lewin, and the other prior art references at issue in this proceeding. *See supra* Section V.A. In particular, his testimony concerning the state of relevant technological developments within the field of endeavor that may inform a POSITA’s understanding and application of the prior art at issue here does not need corroboration by other documentary evidence to be admissible under Fed. R. Evid. 702. To the extent Petitioner argues otherwise, Petitioner addresses the weight to be given Mr. Farley’s testimony, as opposed to its admissibility. *See, e.g.*, CTPG 79 (“A motion to exclude . . . may not be used to challenge the sufficiency of the evidence to prove a particular fact” and “is not a vehicle for addressing the weight to be given evidence.”). We have considered his testimony, and assigned the appropriate weight to it in view of his background and the information being offered.

That leaves Mr. Farley’s specific opinions concerning mobile phone technology at the time Nguyen was filed in 2004. *See* Ex. 2005 ¶¶ 39–40. We reproduce these opinions in their entirety here:

[0039] . . . Plus, the mobile phone technology at the time Nguyen was filed in [2004] could not support a player accessing and placing wagers with an internet casino. In fact, at the time Nguyen was filed, to my knowledge, it would not have been possible to carry out the functions of Nguyen’s system on a single device. For example, while a mobile phone could be used to access the internet in the year 2004, I do not believe that the user could access the internet and accept a verification call at the same time. And if it was possible, it was not widely available, making it impractical for Nguyen’s system.

[0040] In my view, a person of ordinary skill would appreciate these shortcomings in Nguyen and understand Nguyen’s suggestion of them to be limited to just that—a suggestion without explaining how they could or would be utilized. . . . In my view, Nguyen’s teachings could not be carried out using a single device without eliminating key functions of Nguyen’s internet casino. Ex. 1004 (Nguyen), ¶ 30. For example, combining the devices would limit the user to playing on a limited number of devices (capable of verifying the user and allowing play) and removes the flexibility that Nguyen offers to players gaming from a variety of devices (including devices without user and location verification abilities).

Ex. 2005 ¶¶ 39–40.

Petitioner has a valid point in challenging Mr. Farley’s expert qualifications as they relate to the state of mobile phone technology in 2004. His experience, summarized above in Section V.A, is in mobile gaming, with only ancillary involvement with mobile phones as one type of device that can be used to implement mobile gaming. When asked during deposition to identify the basis for his challenged opinions, Mr. Farley said: “I’m recalling the cell phones that were available in 2004, you know, when I was using cell phones. They were rather primitive.” Ex. 1055, 108:24–109:9. He also admitted he is not an expert in telecommunications systems, and stated he is “a consumer” of cellular telephones rather than “an expert” regarding them. *Id.* at 109:10–19.

Nonetheless, we conclude Mr. Farley’s testimony should not be excluded under Fed. R. Evid. 702. This rule serves “a ‘gatekeeping role,’ the objective of which is to ensure that expert testimony admitted into evidence is both reliable and relevant.” *Sundance*, 550 F.3d at 1360; *see also Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 147 (1999) (“Federal

Rule of Evidence 702 imposes a special obligation upon a trial judge to ‘ensure that any and all scientific testimony . . . is not only relevant, but reliable’” (quoting *Daubert*, 509 U.S. at 589), which is a “basic gatekeeping obligation”). The policy considerations for excluding expert testimony, such as those implemented by *Daubert*’s gatekeeping framework, are less compelling in bench proceedings such as *inter partes* reviews than in jury trials because, unlike a lay jury, the Board by statutory definition has competent scientific ability (35 U.S.C. § 6) and has significant experience in evaluating expert testimony. *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 . . .”). Accordingly, the danger of prejudice in this proceeding is considerably lower than in a lay jury trial.

Mr. Farley’s declaration at paragraphs 39–40 may have some deficiencies, which we discuss below in our substantive consideration of the evidence. *See infra* Section VII.A.3. The Board, however, acts as both the gatekeeper of evidence and the weigher of evidence. Rather than excluding this testimony as lacking expert qualification, we will simply not rely on it or give it little or no probative weight, as appropriate, in our analysis. We therefore deny Petitioner’s motion to exclude this testimony.

C. Relevant Time Frame for Considering Obviousness

Petitioner asserts “Mr. Farley only analyzes Petitioner’s asserted prior art references at the time the references were *filed*—not ‘the time the invention was made’ as required under 35 U.S.C. § 103(a).” Paper 32, 1. Petitioner therefore urges us to exclude “Mr. Farley’s opinions regarding the

asserted references” as being irrelevant to obviousness under Fed. R. Evid. 402. Paper 32, 1.

Pursuant to Fed. R. Evid. 402, relevant evidence is admissible and irrelevant evidence is not admissible. Further, evidence is relevant if “it has any tendency to make a fact more or less probable than it would be without the evidence” and “the fact is of consequence in determining the action.” Fed. R. Evid. 401. And, the obviousness inquiry asks whether “the subject matter as a whole would have been obvious *at the time the invention was made.*” 35 U.S.C. § 103(a) (emphasis added).

Petitioner asserts “Mr. Farley’s entire opinion is offered from the improper perspective of the time that each one of Petitioner’s asserted prior art references was *filed*,” rather than the time the ’231 patent’s invention was made. Paper 32, 8–10 (emphasis by Petitioner) (citing Ex. 1055, 38:25–39:5, 39:20–40:9, 43:6–15, 118:16–23, 144:22–25, 151:19–152:6). In Petitioner’s view, Mr. Farley’s deposition testimony “repeatedly and convincingly disavowed” his declaration testimony, which correctly describes the time frame for the obviousness inquiry. *Id.* at 10 n.3 (citing Ex. 2005 ¶ 17). Petitioner concludes “[a]ssessing obviousness from the filing date of the prior art references in conducting an obviousness analysis is improper as a matter of law,” so Mr. Farley’s opinions on obviousness should be excluded as irrelevant. *Id.* at 10–11 (citing *Comcast Cable Commc’ns Corp. v. Finisar Corp.*, 571 F. Supp. 2d 1137, 1145 (N.D. Cal. 2008), *aff’d sub nom. Comcast Cable Commc’ns, LLC v. Finisar Corp.*, 319 F. App’x 916 (Fed. Cir. 2009)).

Patent Owner responds that Petitioner’s motion improperly challenges the sufficiency, rather than the admissibility, of Mr. Farley’s testimony. *See*

Paper 33, 2 (citing CTPG 79), 12–13 (discussing Fed. R. Evid. 401 & 402). Patent Owner also asserts Mr. Farley applies the proper obviousness analysis. *See id.* at 11–12. Patent Owner accuses Petitioner of mischaracterizing Mr. Farley’s deposition testimony, “which when viewed in context shows he properly considered the teachings of Nguyen and Lewin and did so at the relevant point in time.” *Id.* at 12 (discussing Ex. 1055, 38:1–11, 39:20–40:4, 43:2–15, 108:24–109:23, 118:16–23, 144:22–25, 151:19–152:11). Mr. Farley’s declaration is to the same effect, according to Patent Owner. *See id.* (citing Ex. 2005 ¶¶ 16–22).

Petitioner replies that “Patent Owner strains to salvage Mr. Farley’s opinions . . . but to no avail,” because “Mr. Farley’s testimony speaks for itself” and supports Petitioner’s argument. Paper 34, 1–2 (citing Ex. 1055, 43:6–15).

Upon review of the foregoing, we conclude Mr. Farley’s declaration reflects the correct legal standard, in stating that “a patent claim is unpatentable as obvious 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 in that field of endeavor.” Ex. 2005 ¶¶ 16–17 (emphasis added). The time of the ’231 patent’s invention was, at the earliest, August 2010.³ *See* Ex. 1001, code (60).

³ Mr. Farley identifies the time of the ’231 patent’s invention to be “at latest, March 2011.” Ex. 2005 ¶ 17. Petitioner “assumes without conceding” that it is August 2010. Pet. 4; Pet. Reply 21. This discrepancy arises because the application that became the ’231 patent was filed on March 24, 2011, but asserted priority to a provisional application filed on

Thus, we turn to Mr. Farley’s deposition testimony, to discern whether it supports Petitioner’s contention that Mr. Farley, in fact, evaluated obviousness at the time of Nguyen (November 2004) and Lewin (August 2007). *See* Ex. 1004, code (22); Ex. 1005, code (22). The first series of questions cited in Petitioner’s motion began with a hypothetical presented to Mr. Farley: “I might have a prior art reference from 2000 and another prior art reference from 2005, and I’m applying those prior art references to see if a patent filed in 2010 is obvious. Do you understand that?” Ex. 1055, 36:19–24. Mr. Farley answered “Yes.” *Id.* at 36:25. A short while later, Mr. Farley was asked: “[W]hen I’m evaluating obviousness, what is the timeframe that I’m looking to see *whether the subject patent is obvious?*” *Id.* at 38:2–4 (emphasis added). He answered: “My understanding . . . is at *the time of the application for the patent,*” which he specified as “[t]he 2000 patent would be 2000” and “[t]he 2005 patent would be 2005.” *Id.* at 38:5–11 (emphasis added). We agree with Patent Owner’s position that this testimony reflects a correct understanding of the obviousness inquiry as directed to the time when “the subject patent”—that is, the patent being challenged as having been obvious—was filed as an application.

Petitioner’s counsel then referred Mr. Farley to “the Nguyen patent” filed on November 3, 2004, and asked: “[W]hen evaluating obviousness, a person of ordinary skill in the art would consider Nguyen as of what one would know in or on November 3, 2004; is that right?” *Id.* at 38:12–39:4.

August 13, 2010. *See* Ex. 1001, fields (22), (60). This discrepancy does not affect our consideration of Petitioner’s motion to exclude; we would reach the same decision regardless of which date is used.

He answered “Yes.” *Id.* at 39:5–8. Petitioner asserts this testimony reflects an incorrect understanding of the obviousness inquiry as directed to the time when the prior art was filed, rather than the time when the challenged patent was filed.

We conclude Mr. Farley’s testimony is equivocal on this issue. The questions asked could very well have been understood to be hypothetical questions concerning the proper time frame applied if “the Nguyen patent” was the patent being challenged, rather than the ’231 patent. Counsel’s reference to “when evaluating obviousness” (*id.* at 38:25–39:2) is too vague to tie the question to obviousness of the ’231 patent, rather than obviousness of the Nguyen patent. The following questions concerning Lewin fare no better—the vague references to “an obviousness analysis” and “in your evaluation of obviousness or in any evaluation of obviousness” do not clearly tie the questions to obviousness of the ’231 patent. *See id.* at 39:9–40:10.

Indeed, Petitioner’s counsel returned to this topic later in the deposition, asking Mr. Farley: “And so, in your analysis, you never considered what would one of ordinary skill in the art in 2010, for example, think of the Nguyen reference; is that right?” *Id.* at 43:2–20. Mr. Farley answered:

I think the Nguyen reference—its relevance is at the time that it was filed. I mean, *technology advanced in 2010, so to try and use 2010 technology against a patent that was filed back in 2004 would be displaced.* There’s no way in 2004 you can anticipate what technological advances would be made six years later.

Id. at 43:21–44:4 (emphasis added). Here, Mr. Farley seemed to understand the question to ask whether it would have been appropriate to use 2010

technology to challenge a patent that was filed in 2004 (such as Nguyen) as having been obvious. He correctly answered that question in the negative. This testimony, again, is equivocal regarding whether Mr. Farley applied the correct time frame in his obviousness analysis of the '231 patent.

The next series of questions cited in Petitioner's motion were directed to the scope of Nguyen's disclosure. Specifically, Mr. Farley testified concerning the capabilities of mobile phone technology at the time Nguyen was filed in 2004. *See* Ex. 1055, 108:12–118:23. Mr. Farley opined that mobile phone technology in 2004 would not permit a *single* cellular telephone to connect to an internet casino to play games *and* to determine the user's location, so *separate* cellular telephones would have been required to perform both of those functions. *See, e.g., id.* at 108:12–109:19, 117:24–25. Petitioner's counsel asked: "If Nguyen was filed in 2010, and we were looking at it from the context of 2010, wouldn't you say that it would be obvious to have one single device that performs both the gaming functions and the account verification functions?" *Id.* at 118:2–7. Mr. Farley objected to the question as a "hypothetical" and then returned to his focus on mobile phone technology in 2004 and Nguyen's disclosure in 2004. *See id.* at 118:8–15. Petitioner's motion cites the succeeding discussion in which Mr. Farley confirmed his testimony as to what Nguyen disclosed was "looking at Nguyen . . . in 2004." *Id.* at 118:16–23, 144:22–25.

This testimony is, again, equivocal regarding whether Mr. Farley applied the correct time frame in his obviousness analysis of the '231 patent. Viewed most favorably to Petitioner, Mr. Farley does appear to have been unwilling to view Nguyen's disclosure outside of the 2004 time frame when

Nguyen was filed. But, as with his previous testimony, the questions posed here to Mr. Farley were not clearly tied to obviousness of the '231 patent which was filed in 2010.

The final question cited in Petitioner's motion pertained to the three related proceedings in which we instituted review (*see supra* Section II.A) and asked: "[W]ould you say that it's accurate that in your analysis you considered each of those references from the perspective of what one of ordinary skill in the art would have known at the time that the references themselves were filed?" Ex. 1055, 151:19–152:3. Mr. Farley answered: "That's the perspective I tried to take, is one of ordinary skill in the art at the time that those patents were filed." *Id.* at 152:4–6. This testimony is, again, equivocal regarding whether Mr. Farley applied the correct time frame in his obviousness analysis of the '231 patent.

The central difficulty with all of the deposition testimony cited by Petitioner in support of the motion to exclude is that the questions were too vague and generalized to put them into the context of asking about the time frame Mr. Farley applied when reaching a conclusion as to obviousness of the '231 patent. This lack of clarity in his deposition testimony makes us unable to conclude that Mr. Farley applied the incorrect time frame, when his declaration states clearly that he applied the correct time frame.

Thus, we deny Petitioner's motion to exclude the entirety of Mr. Farley's testimony on the basis that he misapplied the law of obviousness.

VI. CLAIM CONSTRUCTION

We interpret the '231 patent claims “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b). This “includ[es] construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.*

Petitioner asserts the '231 patent specification expressly defines the claim term “determine,” and the Petition applies this definition. *See* Pet. 15 (citing Ex. 1001, 5:16–37). Petitioner additionally contends “the Board need not expressly construe any term because the prior art invalidates the claims under any plausible construction.” *Id.*

Patent Owner does not propose expressly any claim constructions.

Upon consideration of the foregoing, and the entirety of the arguments and evidence presented, we conclude no explicit construction of any claim term is needed to resolve the issues presented by the arguments and evidence of record. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (per curiam) (claim terms need to be construed “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))).

VII. OBVIOUSNESS

A. *Obviousness over Nguyen and Lewin*

Petitioner asserts claims 1–5, 7, and 21–23 of the '231 patent would have been obvious over Nguyen and Lewin. Pet. 6, 11–13, 16–46. Patent

Owner opposes. PO Resp. 5–34. We conclude a preponderance of the evidence supports Petitioner’s assertions as to all challenged claims. We begin our analysis with brief summaries of Nguyen and Lewin, then we address the parties’ contentions as to obviousness.

1. Nguyen Disclosure

Nguyen “relates to online gaming,” including “methods and devices for determining whether a user is authorized to participate in online gaming.” Ex. 1004 ¶ 1. Figure 1 is reproduced here:

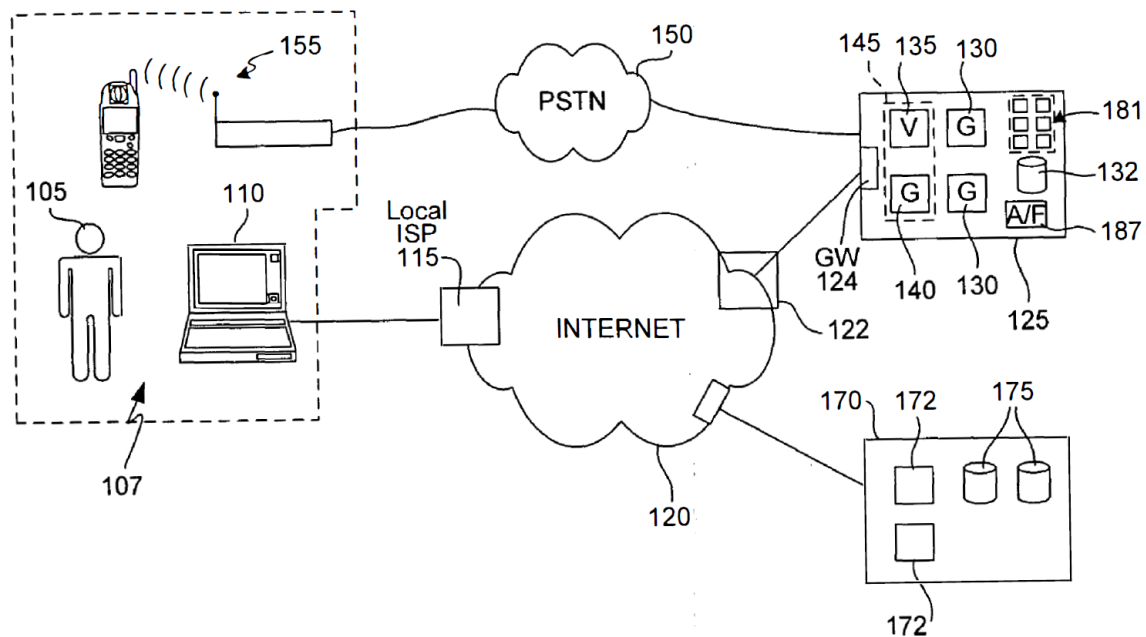


Figure 1 illustrates an exemplary network for providing Internet gaming, including Internet casino 125 that communicates with telephone 155 of client 105 via telephone network 150, and communicates with device 110 of client 105 via the Internet 120. *Id.* ¶¶ 24, 33, 35, 37–38. Device 110 may be a laptop computer as shown in Figure 1, but it may also be a cellular telephone, or a personal digital assistant. *Id.* ¶ 33. Internet casino 125

includes game servers 130, 140 to present gaming sessions, including wagering games, to client device 110 via the Internet 120. *Id.* ¶¶ 37–39.

Internet casino 125 also includes verification server 135, which “verifies the identity, age and location of clients and determines whether gaming sessions should be authorized.” *Id.* ¶ 38. This authorization is based on a number of factors, including verification of the identity of client 105, and verification that client 105 is located within a jurisdiction that allows gaming. *Id.* at Fig. 3, ¶¶ 58–64.

Internet casino 125 may verify the identity of client 105 with a player ID and password inputted by client 105 using device 110. *Id.* at Fig. 3 (step 310), ¶¶ 30, 58. Internet casino 125 may also apply voice biometrics to an oral response provided by client 105 via telephone 155. *Id.* at Fig. 3 (steps 335, 340, & 345), ¶¶ 31, 61–63.

Internet casino 125 may verify the location of client 105 and device 110 via positioning information provided by a cellular telephone network and cellular telephone 155. *Id.* at Fig. 3 (steps 315, 320, & 325), ¶¶ 30, 32, 38, 59–60. If client device 110 is a mobile device such as a laptop computer or a cellular telephone (*id.* ¶ 33), Nguyen “takes into account the fact that the player may change her location (and may possibly change legal jurisdictions) during a gaming session by performing periodic verifications.” *Id.* ¶¶ 65–66 (referring to method 400 illustrated in Figure 4). Here, Internet casino 125 may determine the player’s location via the player’s mobile telephone, by accessing the mobile telephone’s GPS data or emergency dispatcher location data. *Id.* at Fig. 4 (step 420), ¶¶ 66–69. The determined location “is compared to jurisdictional boundaries to determine whether the player is located within a jurisdiction within which Internet gaming would

be permitted,” before the gaming session is authorized. *Id.* at Fig. 4 (steps 425, 430, & 435), ¶¶ 70–71.

Thereafter, “the player’s location is preferably verified during the gaming session,” using “a predetermined time interval” or a “frequency . . . based on other factors, such as the player’s proximity to a jurisdiction in which Internet gaming would not be permitted,” or other criteria. *Id.* at Fig. 4 (steps 440, 445, & 450), ¶¶ 71–72. The gaming session is permitted to continue, or is ended, based on the repeating location verifications. *Id.*

2. *Lewin Disclosure*

Lewin discloses “a method and system for electronic gaming, and in particular, to multiple jurisdiction electronic gaming with remote access capability.” Ex. 1005 ¶¶ 3, 9. As shown in Figure 1, Lewin discloses a gaming center 120 with servers 102 which provide game play to various player devices via the Internet 100. *Id.* ¶¶ 35–37. These player devices include portable gaming devices 110, such as mobile phones or personal digital assistants, which can move between different gaming jurisdictions 112, 114, and 116. *Id.* ¶ 37.

Lewin indicates online gaming with gambling elements requires strict and accurate ways to verify a player’s eligibility to play. *Id.* ¶ 8. Thus, due to “the highly regulated environment and eligibility rules that vary from jurisdiction to jurisdiction, a need exists for” a secure and timely verification system. *Id.* Lewin accordingly provides a process “that determines jurisdictional requirements and screens players against determined jurisdictional requirements.” *Id.* ¶ 22 (describing Fig. 5). Thus, gaming center 120 “checks to see if the player is utilizing an authorized device for

accessing the system,” where “[a]uthorized devices may vary from jurisdiction to jurisdiction.” *Id.* ¶ 52 (Fig. 5, step 510). This check may be based on, for example: “the ID of the player device from which the account request was sent”; “[t]he player’s Media Access Control (MAC) address”; or the “device serial number.” *Id.* ¶¶ 44–45, 53.

3. *Claim 1*

Petitioner provides arguments and evidence, including testimony from Mr. Williams, in support of contending claim 1 is unpatentable as having been obvious over Nguyen and Lewin. Pet. 11–13, 16–36; Ex. 1003 ¶¶ 106–115, 125–148; Ex. 1056 ¶¶ 8–48. Patent Owner provides arguments and evidence in opposition, including testimony from Mr. Farley. PO Resp. 5–34; Ex. 2005 ¶¶ 27–50.

a) *Comparing Claim 1 with Nguyen*

Petitioner argues Nguyen’s Internet casino 125 is an apparatus that corresponds to claim 1, except casino 125 does not, as is recited in claim 1, “determine that *a device is authorized* to use [the casino’s] gaming service *based on one or more characteristics of the device*,” and then “allow gaming activity based on the determination that the device is authorized.” Ex. 1001, 76:5–7, 76:12–13 (emphasis added); *see* Pet. 11–13, 16–36.

Patent Owner makes one challenge to Petitioner’s foregoing reliance on Nguyen. We first discuss why we find the unchallenged aspects of Petitioner’s contentions are supported by a preponderance of the evidence. Then we consider Patent Owner’s challenge.

*(1) Unchallenged Aspects of
Petitioner's Comparison of Claim 1 with Nguyen*

We determine Petitioner's unchallenged reliance on Nguyen as disclosing subject matter recited in claim 1 is supported by a preponderance of the evidence, for the following reasons.

We find Nguyen's Internet casino 125 is an apparatus comprising a machine readable medium storing a set of instructions to run a processor. *See* Ex. 1004, Figs. 1 and 5, ¶¶ 37, 39, 74, 77–79; Pet. 16–18; Ex. 1003 ¶¶ 126–127. In particular, Nguyen's game servers 130, 140 and verification server 135 each incorporate a machine readable medium and processor. *See* Ex. 1004, Fig. 1, ¶¶ 37–39; *see also* Ex. 1001, 8:62–66 (“The term ‘computer-readable medium’ refers to any medium, a plurality of the same, or a combination of different media . . .”).

We find Nguyen's Internet casino 125 determines user 105 of device 110 is authorized to use a gaming service provided by casino 125 via device 110. *See* Ex. 1004 ¶¶ 6, 57–58, 60–63; Pet. 18, 21–22; Ex. 1003 ¶¶ 128, 132–133. In particular, the casino may require user 105 to provide a player ID and password via device 110 to determine user 105 is an authorized user, and may also verify the user's identity via biometric data such as a voice response provided via telephone 155. *See* Ex. 1004 ¶¶ 6, 57–58, 60–63; *see also* Ex. 2005 ¶ 33 (Mr. Farley testifying that “a player uses their user ID and password to log into the client device [110]”). Further, “device 110 could be any of a wide variety of devices, such as a cellular telephone” (*id.* ¶ 33), and telephone 155 may likewise be “a mobile telephone” (*id.* ¶ 60).

We find Nguyen's Internet casino 125 determines the user's telephone 155 is associated with a first location in which gaming activity is allowed. *See* Ex. 1004, Fig. 3 (steps 315, 320, & 325), Fig. 4 (steps 405, 410, 420, & 425), ¶¶ 59, 65–68, 70; Pet. 22–24; Ex. 1003 ¶ 134. For example, in the event telephone 155 is a mobile telephone, casino 125 may determine the location of telephone 155 by either (i) polling the telephone's GPS data, or (ii) calling the telephone, and accessing the telephone's emergency dispatcher location data from the cell sites connecting the call. Ex. 1004 ¶¶ 65–69.

We find Nguyen's Internet casino 125 allows gaming activity based on the determinations that user 105 is authorized and that telephone 155 is associated with the first location. *See* Ex. 1004, Fig. 3 (step 350), Fig. 4 (step 435), ¶¶ 6, 61, 63, 70–71; Pet. 24–26; Ex. 1003 ¶¶ 135–136.

We find Nguyen's Internet casino 125 determines a period of time relative to the determination of the first location, and after which a location redetermination of telephone 155 should be made. *See* Ex. 1004 ¶¶ 65, 71; Pet. 31–33; Ex. 1003 ¶¶ 143–145. Further, the period of time is determined based on a distance of the first location from a boundary of an area, such as a state boundary line. *See* Ex. 1004 ¶¶ 4, 65, 71; Pet. 31–33; Ex. 1003 ¶¶ 143–145. The casino determines when the period of time has passed, and in response, determines whether telephone 155 is associated with a second location in which gaming activity is allowed. *See* Ex. 1004, Fig. 4 (steps 440, 445, & 450), ¶ 72; Pet. 33–36; Ex. 1003 ¶¶ 146–148.

(2) *Patent Owner's Challenge to
Petitioner's Comparison of Claim 1 with Nguyen*

Patent Owner impliedly contends claim 1 requires *one, single* device that *both*: (i) is used to access the apparatus's gaming service to participate in gaming activity; *and* (ii) is determined by the apparatus's processor to be associated with a location in which the gaming activity is allowed. *See, e.g.*, PO Resp. 4, 20, 26–27. Petitioner does not dispute this claim construction, and we conclude it is supported by the plain claim language. *See* Ex. 1001, 76:2–15.

Patent Owner then argues Nguyen's system does not satisfy this claim requirement, because Nguyen's system requires *two, separate* user devices. *See* PO Resp. 4, 5–9, 26–27. The first device is client device 110, which Internet casino 125 allows to access the gaming services of Internet casino 125 to participate in gaming activity. *See id.* The second device is telephone 155, which Internet casino 125 determines is associated with a location in which gaming activity is allowed. *See id.* Thus, Patent Owner asserts “[a]ll gaming functions are carried out” using device 110, and “[a]ll verification functions are carried out” using telephone 155. *Id.* at 7–8, 20, 22–23 (citing Ex. 1004 ¶¶ 33–44, 52); Ex. 2005 ¶¶ 27–42. Patent Owner concludes: “Although Nguyen explains that client device 110 could be a mobile phone and explains that telephone 155 could likewise be a mobile phone, Nguyen never explains that these devices are or even could be combined into a single device.” PO Resp. 9, 24; Sur-reply 12–13 (citing Ex. 1004 ¶¶ 29, 33, 35, 38, 65); Ex. 2005 ¶¶ 39–40 (also citing Ex. 1004 ¶ 30).

In support, Mr. Farley testifies that combining the functionality of device 110 and telephone 155 into one mobile phone would eliminate key functions of Nguyen’s internet casino. PO Resp. 5–6, 9 (citing Ex. 1004, code (57), Fig. 1, ¶¶ 3, 33; Ex. 2005 ¶¶ 27–28, 31–32, 39, 41); Sur-reply 8. Mr. Farley also testifies, as discussed above in relation to Petitioner’s motion to exclude evidence, that combining the functionality of device 110 and telephone 155 into one mobile phone could not have been accomplished at the time Nguyen was filed in 2004. PO Resp. 9 (citing Ex. 2005 ¶¶ 39, 41).

Patent Owner acknowledges “Nguyen states that the internet casino 125 may include ‘a single device [that] perform[s] various functions,’” but asserts “this statement is limited to” the servers comprising Nguyen’s Internet casino 125, and does not apply to the client-side devices 110 and 155. PO Resp. 23 n.7 (quoting Ex. 1004 ¶ 39); Sur-reply 13–14 (citing Ex. 1004 ¶¶ 37–39); Ex. 2005 ¶ 32.

Petitioner replies that Patent Owner has “fabricated” a “two-device requirement” that is not supported by Nguyen, which instead discloses one, single mobile phone may be used to achieve all of Nguyen’s verification and game play functionality. Pet. Reply 8–17 (citing Ex. 1004, Figs. 3–4, ¶¶ 13–14, 27, 30, 33, 39, 46, 50, 57–67, 70); Ex. 1056 ¶¶ 8–23. Petitioner particularly relies on Nguyen’s paragraph 39 in this regard. *See* Pet. Reply 10–11; Ex. 1056 ¶¶ 11–12. Petitioner asserts Mr. Farley’s deposition testimony confirms Petitioner’s reading of Nguyen’s disclosure. *See* Pet. Reply 11, 12, 14–15, 16 (citing Ex. 1055, 133:16–135:6, 143:3–16, 149:17–150:12). Petitioner contends Figure 1 of Nguyen discloses merely one embodiment of the overall disclosure, so Patent Owner’s contentions concerning the primary purpose of Nguyen are unavailing. *See id.* at 18–20

(citing Ex. 1004 ¶¶ 33, 38, 58–73; Ex. 1055, 107:17–22); Ex. 1056 ¶¶ 24–29. Petitioner finally asserts Mr. Farley’s testimony concerning the state of mobile phone technology in 2004 lacks evidentiary support, as discussed above in connection with Petitioner’s motion to exclude. *See* Pet. Reply 20–22 (discussing Ex. 2005 ¶ 39, and citing Ex. 1004 ¶¶ 33, 60, 67); Ex. 1056 ¶¶ 30–34 (citing Ex. 1057, 1–2; Ex. 1058, 1; Ex. 1059, 1–2; Ex. 1060 ¶¶ 3–4; Ex. 1062, 1; Ex. 1064, 1).

Patent Owner maintains in response that “Nguyen describes a single overall architecture” for its system, and this architecture must include two user devices, “one to access the gaming system and one to verify player identity and player location.” Sur-reply 9 (citing Ex. 1004, Fig. 1, ¶¶ 24, 30–44, 46, 50–52, 58–73). Patent Owner asserts the Reply’s arguments to the contrary are “irrelevant” because the Petition relies on the two-device architecture shown in Figure 1, and the methods of Figures 3–4 which require a phone call to be placed to the verification device to verify the player’s identity with voice biometric data. *Id.* at 9–11 & n.2 (citing Pet. 11–13, 16, 18–22; Ex. 2006, 40:10–41:6, 48:15–22). Patent Owner further asserts Nguyen’s Figures 3 and 4 “have very little to do with client device 110,” and so do not support Petitioner’s one-device view of Nguyen. *Id.* at 15–18 (citations omitted). Patent Owner moreover insists “Nguyen focuses on verifying the *player*’s identity and location,” and “does not disclose verifying the location of the *gaming (client) device*.” *Id.* at 11–12 (emphases added) (citing Ex. 1004 ¶¶ 4, 6, 10, 30, 32, 55–56, 60). Patent Owner further argues Mr. Williams “could not articulate a specific embodiment or complete architecture in Nguyen that he relied on when analyzing the claims of the ’231 patent,” and he instead improperly “picked

elements from different embodiments, combined them with hindsight bias, and did so without appreciating Nguyen’s architecture.” *Id.* at 18–19 (citing Ex. 2006, 34:16–35:3, 35:22–36:16, 37:13–39:14, 41:11–43:5, 46:14–47:7).

Patent Owner further asserts that the new references cited in Petitioner’s Reply concerning mobile phone technology available in 2004, when Nguyen was filed, show “Nguyen purposefully designed a two-device system when technology could have supported a single device system.” *Id.* at 19 (citing Exs. 1057–1060, 1062, 1064). Patent Owner also argues Mr. Farley’s testimony concerning the state of mobile phone technology in 2004 “properly considered the teachings of Nguyen and Lewin . . . at the relevant point in time,” as discussed above in connection with Petitioner’s motion to exclude. *Id.* at 20–21.

We conclude Petitioner has the better position, which is supported by a preponderance of the evidence. It is undisputed that Nguyen discloses device 110 may be a mobile cellular telephone, and telephone 155 may likewise be a mobile cellular telephone. *See* Ex. 1004 ¶ 33 (device 110); *id.* ¶¶ 33, 60, 67–69 (telephone 155). A person of ordinary skill in the art reviewing these disclosures would understand Nguyen to disclose that one, single mobile cellular telephone may be used to perform all of the functionality that Nguyen ascribes to device 110 and telephone 155. This is so regardless of whether the timing perspective is November 2004 when Nguyen was filed (which is Patent Owner’s focus), or August 2010 when the ’231 patent’s invention was made (which is Petitioner’s focus).

Patent Owner’s and Mr. Farley’s protestations to the contrary are not persuasive. Most importantly, their position simply make no sense. In their view, a POSITA would read Nguyen to require the mobile user to be in

possession of two, separate mobile cellular telephones at the same time, while traveling from location to location. We determine, instead, that a POSITA would not expect users in 2004 or in 2010 to possess two, separate mobile cellular telephones as a matter of course. Accepting Patent Owner's narrow view of Nguyen's disclosure would necessarily mean that Nguyen intended to limit the usefulness of its disclosed invention to a very small segment of Nguyen's target mobile user population. This narrow view overlooks the reality of the mobile cellular telephone marketplace in 2004 and in 2010. Mr. Farley proffers two rationales in support of his narrow reading of Nguyen, neither of which withstands scrutiny.

First, Mr. Farley testifies that "Nguyen's primary purpose is to allow a user to have a single account for the internet casino while being able to access the internet casino and place wagers from different locations."

Ex. 2005 ¶ 27 (citing Ex. 1004 ¶ 3). Mr. Farley also testifies somewhat differently that "one of Nguyen's primary concerns is protecting the user's account information [using voice biometric information] while allowing the user to access their account from different locations and from different devices." *Id.* ¶¶ 28–31 (citing Ex. 1004 ¶¶ 5–7, 15, 46, 60–62, 82).

Mr. Farley concludes combining Nguyen's device 110 and telephone 155 "would limit the user to playing on a limited number of devices (capable of verifying the user and allowing play) and removes the flexibility that Nguyen offers to players gaming from a variety of devices (including devices without user and location verification abilities)." *Id.* ¶ 40.

The Nguyen disclosures cited by Mr. Farley do not support his testimony. *See* Ex. 1004 ¶¶ 3, 5–7, 15, 46, 60–62, 82. They do not describe any particular aspect of Nguyen's system as a primary purpose or aim

achieved by the system, much less the specific purpose(s) identified by Mr. Farley. *See id.* Viewed in a light most favorable to Mr. Farley’s testimony, these disclosures discuss that when a potential player seeks to bet on wagering games from uncontrolled environments and when telephone 155 is a mobile cellular phone, the telephone may be used to verify the player’s identity by comparing a voice response provided by the player over telephone network 150 to previously recorded voice data of the player. *See id.* We discern nothing in these disclosures reflecting a purpose of Nguyen’s system to be allowing the potential player to utilize “different” client devices 110 or “a variety of” client devices 110 to access a single account, as Mr. Farley would have it.

Moreover, and just as significant, Mr. Farley does not explain and we do not discern how our finding concerning Nguyen would *limit* the player to utilizing *only* devices capable of both verifying the user and allowing play, or would otherwise preclude the player from utilizing a variety of different devices to access a single account and bet on wagering games from different locations. *See, e.g.,* Ex. 2005 ¶ 40. We simply find that Nguyen discloses one way in which a player may access Nguyen’s Internet casino 125 is with one, single mobile cellular telephone to implement Nguyen’s biometric voice comparison via telephone network 150, and to bet on wagering games via the Internet 120. We do not find that this is the only implementation disclosed in Nguyen. Indeed, we find that it is not. *See, e.g.,* Ex. 1004 ¶ 33 (indicating client device 110 could be a cellular telephone, but alternatively “could be any of a wide variety of devices” such as a laptop computer, a personal digital assistant, a kiosk, or a desktop computer).

In fact, another implementation disclosed by Nguyen uses separate devices 110 and 155, as Patent Owner and Mr. Farley discuss in some detail. Nonetheless, Patent Owner does not cite and we do not discern any disclosure in Nguyen that would preclude Internet casino 125 from using telephone network 150 to communicate with some telephones 155 that have the additional capability to access the Internet 120, and other telephones 155 that do not have the additional capability to access the Internet 120. For example, Nguyen recognizes that at least some “cellular telephone[s]” available in November 2004 could “include[] the hardware and software needed for Internet gaming.” Ex. 1004, code (22), ¶ 33. Thus, we agree with Mr. Williams’s conclusion that Nguyen’s teaching of “an embodiment in which a single device can be used to access the gaming service and for verification purposes . . . furthers, rather than hinders, Nguyen’s purported goal of allowing the user to access their account from different locations and from different devices.” Ex. 1056 ¶ 29.

Mr. Farley’s second rationale in support of his narrow reading of Nguyen’s disclosure is that “mobile phone technology at the time Nguyen was filed in [2004] could not support a player accessing and placing wagers with an internet casino,” and “it would not have been possible to carry out the functions of Nguyen’s system on a single device.” Ex. 2005 ¶ 39. As an “example,” Mr. Farley testifies that “while a mobile phone could be used to access the internet in the year 2004, I do not believe that the user could access the internet and accept a verification call at the same time,” and “if it was possible, it was not widely available, making it impractical for Nguyen’s system.” *Id.*

This testimony is not persuasive, for several reasons. As Petitioner points out, Mr. Farley does not cite any evidentiary support for his stated belief. *See id.*; Pet. Reply 20. We also agree with Petitioner’s argument that Mr. Farley’s focus on whether mobile phone technology in 2004 allowed a telephone call and Internet access to occur “at the same time” (Ex. 2005 ¶ 39) misses the mark, because claim 1 does not require such simultaneous usage, and because “Nguyen does not require the user to be connected to the Internet and accept the verification call at the same time.” Pet. Reply 20–21; Ex. 1056 ¶¶ 30–31 (Mr. Williams testifying that “I have reviewed Nguyen in detail and, in my opinion, there is no requirement in Nguyen that the player accept the verification call at the same time that the user is accessing the Internet [to play games] as Mr. Farley alleges.” (citing Ex. 1004, Figs. 3–4, ¶¶ 60, 63, 67, 70–71)). Mr. Farley’s stated belief also is inconsistent with Nguyen itself, which recognizes “cellular telephone[s]” available in November 2004 could “include[] the hardware and software needed for Internet gaming.” Ex. 1004, code (22), ¶ 33.

Moreover, Mr. Williams testifies and provides evidence indicating that “the technology existing at the time Nguyen was filed in 2004 could support gaming activity on a mobile phone and the verification processes described in Nguyen,” and in particular “smartphones on the market in 2004 had the capability to support data-intensive applications such as mobile gaming, as well as the voice and data communications capabilities required to receive/send voice calls and to access the Internet.” Ex. 1056 ¶¶ 32–34. Mr. Williams cites the Treo 600 smartphone (Ex. 1057, 1–2), and the Blackberry 7520 smartphone (Ex. 1058, 1), as examples of such phones available in 2004. Ex. 1056 ¶ 33. Mr. Williams further testifies: “By the

time Nguyen was filed in 2004, . . . standards had been established and were in use that enabled a device (and network) to operate both voice (e.g., receive a voice verification call) and wireless data (e.g., be online with a gaming server) simultaneously” if such simultaneous usage is required by Nguyen’s system. *Id.* ¶ 34 (citing Ex. 1062, 1; Ex. 1064, 1). We conclude Mr. Williams’s foregoing testimony and evidence persuasively rebuts Mr. Farley’s conclusory opinion.

Our finding also is supported by Nguyen’s statement that: “In some implementations, a single device may perform various functions.” Ex. 1004 ¶ 39; Ex. 1056 ¶ 12. Patent Owner correctly points out that this broad statement is provided in the context of discussing the server side (Internet casino 125), rather than the client side (telephone 155 and device 110), of Nguyen’s system. *See* Ex. 1004 ¶¶ 37–40. Nonetheless, given all the other evidence presented in this case as discussed above, this broad statement also supports our finding.

Thus, we find that even viewing Nguyen’s disclosure in the November 2004 timeframe when Nguyen was filed, a POSITA would understand Nguyen expressly discloses that one, single mobile cellular telephone may be used to perform all of the functionality that Nguyen ascribes to device 110 and telephone 155. The same is true if the timeframe shifts to August 2010, when the invention of the ’231 patent was made. *See, e.g.,* 35 U.S.C. § 103(a). The state of mobile phone technology only became more advanced during the intervening period. *See* Ex. 1056 ¶¶ 35–36. For example, we find that by August 2010, “the iPhone 4 was available, which had: the storage, memory, data processing, and user interface capabilities to support data-intensive applications such as mobile gaming; the voice and

data communications capabilities required to receive/send voice calls and to access the Internet simultaneously; and GPS tracking.” *Id.* ¶ 36 (citing Ex. 1061, 1–2; Ex. 1063, 1–2); *see also* Ex. 1055, 109:21–110:13 (Mr. Farley testifying that “in 2010, the iPhone had just arrived or it was on the market for not very long, *which changed things a lot*” (emphasis added)).

For the foregoing reasons, we find Nguyen discloses that one, single mobile cellular telephone may be used to perform all of the functionality that Nguyen ascribes to device 110 and telephone 155. We need not and we do not reach Petitioner’s further contention that this would have been obvious to do, if it is not expressly disclosed by Nguyen. *See* Pet. Reply 22–24; Ex. 1056 ¶¶ 37–38.

b) Comparing Claim 1 with Lewin

Petitioner contends Lewin discloses a gaming service apparatus (i.e., gaming center 120 and servers 102) that determines whether a device (i.e., mobile phone 110) is authorized to use the gaming service based on one or more characteristics of the device other than location. *See* Pet. 13, 18–21, 26–27 (citing Ex. 1005, Figs. 1 and 5, ¶¶ 33, 36, 37, 45, 50–53); Ex. 1003 ¶¶ 113–115, 128–131, 137. Petitioner particularly cites Lewin’s “automated jurisdictional regulatory compliance” process (Ex. 1005 ¶ 33), shown in Figure 5, in which step 510 “checks to see if the player is utilizing an authorized device for accessing” gaming center 120 (*id.* ¶ 52). *See* Pet. 18–20, 26–27; Ex. 1003 ¶¶ 129–130, 137. According to Petitioner, this check can be based on device characteristics including a device ID, the player’s Media Access Control (MAC) address, and/or a device serial number, all of which are characteristics other than location. *See* Pet. 20–21

(citing Ex. 1005 ¶¶ 45, 53; Ex. 1001, 5:16–27); Ex. 1003 ¶ 131. Further, Lewin requires the device to pass the device characteristic check to allow the device to be used for gaming activity. *See* Pet. 26–27 (citing Ex. 1005, Fig. 5 (steps 510 & 514), ¶¶ 52–53); Ex. 1003 ¶ 137.

Patent Owner challenges whether Lewin determines that its user device “is authorized to use a gaming service based on one or more characteristics of the device other than location,” and then “allow[s] gaming activity based on” that determination, as recited in claim 1. Ex. 1001, 76:5–7, 76:12–13; *see* PO Resp. 14–16; Ex. 2005 ¶¶ 43–50.⁴ Patent Owner acknowledges Lewin’s disclosure that: “*The system also checks to see if the player is utilizing an authorized device for accessing the system (510),*” and “[a]uthorized devices may vary from jurisdiction to jurisdiction.” Ex. 1005 ¶ 52 (emphasis added); *see* PO Resp. 16–17. Patent Owner asserts “[t]his statement alone . . . does not suggest (explicitly or implicitly) that the device check is based on characteristics other than location,” and it “[a]t most . . . merely suggests that authorized devices might vary” and “does not explain why they might vary or explain how devices are (or even would be) checked to determine if they were authorized based on any characteristics, let alone characteristics other than location.” PO Resp. 17; Ex. 2005 ¶ 48.

For example, Patent Owner addresses the succeeding paragraph 53 in Lewin, which states “information the system of the present invention may use to determine if the player meets jurisdictional requirements include[s]”

⁴ Citations in the Patent Owner Response to paragraphs of Mr. Farley’s declaration (Ex. 2005) do not relate to the points being discussed in the Response. We have attempted to identify the correctly corresponding paragraphs.

“the ID of the player device from which the account request was sent” and “[t]he player’s Media Access Control (MAC) address or device serial number.” Ex. 1004 ¶ 53; *see also id.* ¶ 45. Patent Owner asserts “Lewin does not say that any of these criteria are used to determine device authorization,” and “[i]nstead, Lewin explains that they are used to ‘determine if *the player* meets jurisdictional requirements.’” PO Resp. 17–19 (emphasis by Patent Owner); Ex. 2005 ¶¶ 49–50. Patent Owner further contends that “most” of the criteria identified in paragraph 53 “use location” to determine that the player meets jurisdictional requirements, which is expressly excluded from the device authorization limitation of claim 1. PO Resp. 17–18; Sur-reply 2–5 (citing Ex. 1005 ¶¶ 22, 45, 51–53); Ex. 2005 ¶¶ 49–50.

Patent Owner further argues: “This makes sense in view of Lewin’s overarching goal of screening players, not screening devices.” *Id.* at 18; Ex. 2005 ¶ 48. In support, Patent Owner asserts: “A primary goal of Lewin is increasing gaming facility profits by increasing the number of players and the length of play time while ‘minimizing the risk of losing an eligible player’ and eliminating problematic players,” by applying a “cost of annoyance” algorithm. PO Resp. 11–12 (citing Ex. 1005 ¶¶ 7, 8, 11, 73); Sur-reply 1; Ex. 2005 ¶ 43. According to Patent Owner, this entails an automatic verification process to collect “nonintrusive data” to screen each player, including “IP addresses” and “device IDs” to help identify players located in foreign countries. PO Resp. 12–14 (citing Ex. 1005, Fig. 1, ¶¶ 11–13, 35–36, 45, 47, 53); Sur-reply 1, 3; Ex. 2005 ¶¶ 44–47.

Petitioner in reply cites Lewin’s disclosure that its system “*checks to see if the player is utilizing an authorized device for accessing the system*

(510).” Pet. Reply 1–2 (quoting Ex. 1005 ¶ 52 (emphasis by Petitioner) and citing Ex. 1055, 167:15–18, 185:8–14); Ex. 1056 ¶¶ 39–48. Petitioner accuses Patent Owner of considering Lewin’s various disclosures of a jurisdictional screening process “in isolation” and “out of context.” Pet. Reply 2–3 (citing Ex. 1005, Fig. 5, ¶¶ 50–53; Ex. 1003 ¶¶ 128–131; Ex. 1055, 170:18–22); Ex. 1056 ¶¶ 39–41. Particularly concerning the claim requirement that the device authorization is based on device characteristics other than location, Petitioner asserts Lewin’s Figure 5 illustrates determining location in steps 506 and 508, prior to the device authorization step 510 which is therefore not based on location. Pet. Reply 3–5 (citing Ex. 1005, Fig. 5, ¶¶ 52–53; Ex. 1003 ¶ 131; Ex. 1055, 170:18–22); Ex. 1056 ¶¶ 42–44. Petitioner also argues that the ’231 patent identifies a device’s ID, MAC address, and serial number (all disclosed by Lewin) as representative examples of device characteristics other than location, belying Patent Owner’s arguments otherwise. Pet. Reply 5–7 (citing Ex. 1001, 40:31–38, 42:14–24, 42:28–38; Ex. 1005 ¶¶ 52–53; Ex. 1003 ¶¶ 130–131); Ex. 1056 ¶¶ 45–48. Petitioner dismisses Patent Owner’s arguments that Lewin uses this information for player authorization, not device authorization, as an unpersuasive “semantic” quibble. Pet. Reply 6–7.

Patent Owner responds that “Petitioner has relied on circular arguments and a deficient inherency position to support its position” as to Lewin’s disclosure. Sur-reply 5, 7–8. According to Patent Owner, Petitioner assumes without basis “that Lewin does not use location characteristics or criteria to screen both player location and player device,” and “Lewin’s silence is not disclosure” on this point because “Lewin could just as well use location characteristics to screen *both* player location [in

Figure 5, steps 506 and 508] and player device [in Figure 5, step 510].” *Id.* (citing Ex. 1005 ¶ 53). Thus, Patent Owner’s view is that Petitioner must rely on inherency to establish a disclosure in Lewin of determining device authorization based on device characteristics other than location, and Petitioner has not met the requisite threshold for an inherent disclosure. *Id.*

We find a preponderance of the evidence establishes Lewin’s gaming service apparatus determines whether a device is authorized to use the gaming service based on one or more characteristics of the device other than location. Lewin correspondingly describes Figure 5 as illustrating a process “where jurisdictional requirements are determined and players are screened against” those requirements. Ex. 1005 ¶ 51. In step 510 of this process, Lewin’s system “checks to see *if the player is utilizing an authorized device* for accessing the system.” *Id.* ¶ 52 (emphasis added). This statement clearly reflects that the system checks whether the device has characteristics that have been authorized for accessing the system (as Petitioner contends), not whether the player has been authorized (as Patent Owner would have it). The next sentence in paragraph 52 states: “*Authorized devices* may vary from jurisdiction to jurisdiction.” *Id.* (emphasis added). Again, the focus is on authorizing the device, not the player. This is confirmed by the remainder of paragraph 52, which discusses various kinds of devices a player may use to connect to Lewin’s system. *Id.*

Lewin’s next paragraph, paragraph 53, then provides “some non-limiting examples of information the system of the present invention may use to determine if the player meets jurisdictional requirements.” *Id.* ¶ 53. This information includes “the ID of the player device from which the

account request was sent,” and “[t]he player’s Media Access Control (MAC) address or device serial number.” *Id.*

We find that a device’s ID or serial number, as disclosed in Lewin, is a characteristic of the device other than location. Lewin contemplates that the gaming device may be a mobile device such as a personal digital assistant (PDA) or a mobile phone. *Id.* ¶ 52. The ID or serial number of such a mobile device does not correspond to the device’s location, because the device can move to any location. Indeed, using a device’s ID or serial number to identify the device is akin to using the device’s phone number to identify the device, as is expressly contemplated in the ’231 patent. Ex. 1001, 38:40–50, 40:31–45, 42:14–47.

We also find that the player’s MAC address, as disclosed in Lewin, is a device characteristic other than location, for two reasons. First, the ’231 patent specification says that it is. The ’231 patent describes how “a sign up process may include establishing an ability for a user to access an account in the future” by using “a user name and *mac address* or phone number *of a particular device*,” or by using “*mac address* or phone number *of a device* and password.” Ex. 1001, 38:40–50 (emphases added), 40:31–45; *see also* PO Resp. 2 (stating a “device may be authorized in a number of ways” in the ’231 patent such as entering “the device information . . . into a database that establishes a relationship between a particular player and a particular device”).

The ’231 patent also describes how “[s]ome embodiments may include determining whether a device is approved for use with a gaming service.” *Id.* at 42:14–15. This may involve “comparing *information about the device* with a listing of devices that have been approved (e.g., a database

of approved phone numbers, *mac addresses*, etc.).” *Id.* at 42:15–20; *see also id.* at 44:33–34 (referring to “device identifying information (e.g., a phone number, mac address)”). Thus, according to the ’231 patent, a mac address is a characteristic of a device, not of a player using the device.

Second, a “MAC address” is “a built-in number that uniquely and permanently identifies a network adapter, such as the Ethernet card in a PC,” and “consists of 12 hexadecimal digits.” Ex. 3001⁵, 3; *see also* Ex. 1005 ¶ 45 (“A MAC address is assigned by a manufacturer for uniquely identifying a particular physical network internet card used by a computer or electronic device to access the Internet or Intranet.”). So, accustomed usage of the term also reflects that a mac address is a characteristic of a device, not of a player using the device.

Patent Owner argues a device’s ID, serial number, or MAC address may be used to determine the device’s location, in contravention of the carve-out in claim 1 specifying “one or more characteristics of the device *other than location*.” Ex. 1001, 76:5–7 (emphasis added). We disagree. The disclosures concerning Lewin’s “Jurisdictional Screening” process illustrated in Figure 5, and described in Lewin’s paragraphs 50–53, must be read together in context. Reading paragraphs 52 and 53 together, Lewin clearly identifies a device’s ID, serial number, or MAC address (¶ 53) as examples of information that are used to determine whether the device is “an authorized device for accessing” Lewin’s gaming system based on varying “jurisdictional requirements” (¶¶ 52–53). Patent Owner’s attempt to divorce

⁵ *Dictionary of Computer and Internet Terms* (Douglas A. Downing et al., eds., 2009).

the disclosures of paragraphs 52 and 53 is not persuasive, given their common thread of jurisdictional screening requirements.

It is true, as Patent Owner contends, that a device's ID, serial number, or MAC address may also be used to determine the device's location. However, as discussed above, a device's ID, serial number, or MAC address is not, itself, indicative of the device's location. This information must be cross-referenced against other information in order to determine the device's location. Indeed, Lewin expressly contemplates doing so, “[a]dditionally” to using this information to determine whether the device is an authorized device for accessing Lewin's gaming system. Ex. 1005 ¶ 53 (emphasis added). Here, Lewin discloses one or more of a device's ID, serial number, or MAC address may be cross-referenced against “existing databases that indicate in which country a computer was purchased,” in order “to help screen out ineligible players located in ineligible jurisdictions.” *Id.* A device's serial number, in particular, “may be looked up in a database to verify location, and can also be used to identify stolen player identifications.” *Id.* Despite these additionally disclosed uses of a device's ID, serial number, or MAC address, Lewin nonetheless discloses using this device characteristic information to verify that the device is authorized to access Lewin's gaming system *after* the device's jurisdictional location has *already* been determined. *See* Ex. 1005, Fig. 5 (steps 506 & 508), ¶¶ 50–52 (determining jurisdictional location); *id.* at Fig. 5 (step 510), ¶¶ 52–53 (determining device is authorized in the jurisdiction based on a device characteristic).

Patent Owner correctly points out that paragraph 53 of Lewin refers to “determin[ing] if *a player* meets jurisdictional requirements.” Ex. 1005 ¶ 53

(emphasis added). Similar descriptions, reflecting a determination that a player is authorized to play games using a device, are found throughout Lewin's specification. However, we conclude these descriptions reflect the reality that, in the electronic game play context of Lewin, a device is just a collection of parts that achieves no useful purpose until a player picks up the device to play a game. That is, the reason that Lewin determines whether the device has characteristics that are required to access a gaming service is to permit the player to use the device to play games. Thus, Lewin's various references to determining that a player is authorized to play games must be read in this context. Patent Owner and Mr. Farley do not explain, and we do not discern, any rational relationship between a device's ID, serial number, or MAC address and a characteristic of the player using the device, that would justify a finding that Lewin uses this information to verify a player rather than a device used by the player. *See, e.g.*, Ex. 2005 ¶¶ 46, 48–50.

Finally, we are not persuaded by Patent Owner's and Mr. Farley's reading of Lewin that would limit Lewin's use of the device's ID, serial number, and MAC address to Lewin's player screening or "cost of annoyance" process, to the exclusion of Lewin's jurisdictional screening process. These are two, different processes that achieve different purposes. *See* Ex. 1005 ¶¶ 9–10, 39, 50–53 (jurisdictional screening); *id.* ¶¶ 11, 39–40, 54–64 (player screening or "cost of annoyance" process). As discussed above, we find Lewin discloses using the device's ID, serial number, or MAC address as part of Lewin's jurisdictional screening process, even if this information is also used in Lewin's player screening or "cost of annoyance" process. *See, e.g.*, Ex. 1055, 170:18–22 (Mr. Farley agrees "one of the

jurisdictional requirements [in Lewin] is whether the player is utilizing an authorized device for accessing the system”).

For the foregoing reasons, we find Lewin discloses a gaming service apparatus that determines whether a device is authorized to use the gaming service based on one or more characteristics of the device other than location.

c) Obviousness of Combining Nguyen and Lewin

Petitioner argues it would have been obvious to modify Nguyen’s Internet casino 125, based on Lewin, to determine that the device 110, 155 of user 105 is authorized to use the casino’s gaming service based on a characteristic of the device other than location, before allowing the device to be used for gaming activity. *See* Pet. 28–31; Ex. 1003 ¶¶ 138–142.

Patent Owner argues Petitioner’s combination fails because, in Patent Owner’s view, Nguyen’s disclosure is limited to “a two-device system” as discussed above in Section VII.A.3(a)(2), requiring one device for user and location authorization and another device for game play. PO Resp. 20, 22–23. Patent Owner further asserts Petitioner’s obviousness analysis “is vague” as to which of these two devices Petitioner proposes modifying. *Id.* at 20–22. Either proposal fails, according to Patent Owner, because either way there is no one, single device that is used to perform all three authorizations recited in claim 1 (device authorization, user authorization, and device location authorization). *Id.* at 22.

Patent Owner’s foregoing arguments are not persuasive, because they are premised on Patent Owner’s contention that Nguyen’s system requires two, separate user devices. As discussed in Section VII.A.3(a)(2) above, we

find Nguyen instead discloses that one, single mobile cellular telephone may be used to perform all the functionality that Nguyen ascribes to device 110 and telephone 155.

Patent Owner next contends that the Petition’s motivation analysis insufficiently “suggests three legally deficient and generic motivations.” PO Resp. 28–29 (citations omitted). Patent Owner identifies these motivations as: (1) the combination would have been predictable; (2) Nguyen and Lewin are in the same field of endeavor and solve the same problem; and (3) Nguyen and Lewin describe remarkably similar systems. *Id.* at 28 (citing Pet. 28–31; Ex. 1003 ¶¶ 138–142).

Patent Owner acknowledges a fourth motivation found in the Petition, that the modification of Nguyen in light of Lewin would “ensure compliance with applicable jurisdictional requirements” (Pet. 29–30; Ex. 1003 ¶ 41), but argues this “is equally generic and fraught with impermissible hindsight bias.” PO Resp. 29–30 (case law citations omitted). Patent Owner asserts this motivation “directly contradicts” Petitioner’s characterization of Nguyen as disclosing “remote servers to verify compliance with jurisdictional requirements,” because “if Nguyen already complies with the applicable jurisdictional requirements, an ordinary artisan would not be motivated to add functionality to achieve the same result.” *Id.* at 32 (citing Pet. 30–31). Further according to Patent Owner, Petitioner’s jurisdictional compliance motivation represents “a general speculation that there are consequences if the rules are not followed, and not a proper basis to show motivation.” *Id.* at 32–33 (citing Pet. 30; Ex. 1003 ¶ 141). In particular: “Without knowing whether Nguyen meets the relevant regulations or whether Lewin is beneficial, Petitioner’s contention is improper,” and Mr. Williams “admitted

he is merely speculating that rules must exist, and not following them could be detrimental.” *Id.* (citing Ex. 2004, 34:13–16, 51:4–9, 54:4–12, 58:5–66:12). Patent Owner argues Mr. Williams’s conclusions are not supported by his citation to Exhibits 1041 and 1042, which also post-date the invention of the ’231 patent, as is confirmed by his deposition testimony. *Id.* at 30–31 (citing Ex. 1003 ¶ 141; Ex. 2004, 34:13–16, 51:4–9, 54:4–12, 58:5–66:12).

Petitioner replies that Patent Owner mischaracterizes the motivation analysis presented in the Petition. *See* Pet. Reply 24. Petitioner asserts the jurisdictional compliance motivation is supported by both Nguyen and Lewin. *Id.* at 25 (citing Ex. 1004 ¶¶ 2–4; Ex. 1005 ¶¶ 3, 5, 8, 52; Ex. 1055, 92:3–13, 158:10–15). Petitioner also asserts Mr. Farley’s testimony supports Petitioner’s jurisdictional compliance motivation. *Id.* at 25–26 (citing Ex. 1055, 26:6–23, 82:4–85:3, 94:19–95:5, 100:19–22, 157:5–11).

We conclude a preponderance of the evidence supports Petitioner’s contentions of obviousness, which establish a sufficient motivation for modifying Nguyen’s Internet casino 125, based on Lewin, to determine that the device 110, 155 of user 105 is authorized to use the casino’s gaming service based on a characteristic of the device other than location, before allowing the device to be used for gaming activity. Nguyen’s Internet casino 125, as shown in Figure 1, provides wager-based gaming on the device 110, 155 via the Internet 120. *See, e.g.*, Ex. 1004 ¶¶ 3–5, 33–35. The casino includes verification server 135 that ensures each user 105 of a device 110, 155 meets a minimum age requirement to participate in such gaming, and is physically located in a jurisdiction that permits such gaming. *See, e.g.*, Ex. 1004 ¶ 38. Nguyen accomplishes this by initially requiring

each user 105 to complete a registration process which verifies the user's age, and compares the user's age with jurisdictional approval criteria. Ex. 1004, Fig. 2, ¶¶ 45–46, 56–57. Then, when a registered user 105 seeks to access wagering games provided by Internet casino 125, verification server 135 verifies the user's identity with an assigned player ID and password as well as biometric voice data (Ex. 1004, Fig. 3, ¶¶ 58, 61–63), and also verifies the user's location to be within a jurisdiction which permits Internet gaming (*id.* at Fig. 3, ¶¶ 59–60; *id.* at Fig. 4, ¶¶ 65–70).

Further, Lewin's gaming center 120, as shown in Figure 1, provides wager-based gaming on mobile devices 110 via the Internet 100. *See, e.g.*, Ex. 1005 ¶¶ 8, 33. The gaming center ensures, among other things, that each device 110 is “authorized” for accessing the gaming center, wherein “[a]uthorized devices may vary from jurisdiction to jurisdiction.” *Id.* ¶ 52. Lewin accomplishes this by initially requiring each player to complete an account opening process which screens the ID of the player's device, the player's MAC address, or the device serial number. *Id.* ¶¶ 39, 44–45. Then, when a player uses a mobile device to access wagering games provided by the gaming center, the gaming center verifies the device using the same information. *Id.* ¶¶ 50–53.

Based on these disclosures in Nguyen and Lewin, we agree with Petitioner's contention that Nguyen and Lewin “are in the same field of endeavor and directed to solving the same problem,” which is “providing systems for remote gambling via a mobile device that comply with jurisdictional requirements for lawful remote gambling.” Pet. 28 (citing Ex. 1004 ¶¶ 37–38, 64, 70; Ex. 1005 ¶¶ 36, 53); Ex. 1003 ¶ 139. We also find Lewin “discloses that *one jurisdictional requirement not explicitly*

described in Nguyen is whether the ‘player is utilizing an authorized device for accessing the system,’” wherein “[a]uthorized devices may vary from jurisdiction to jurisdiction.” Pet. 29 (emphasis added) (quoting Ex. 1005 ¶ 52, and citing *id.* ¶¶ 3, 5, 8); Ex. 1003 ¶ 141. We determine this disclosure in Lewin would have motivated a person of ordinary skill in the art “to combine Lewin’s functionality that allows gaming only if a player is using an authorized device in a given jurisdiction with the system in Nguyen to ensure compliance with applicable jurisdictional requirements,” and thereby avoid penalties such as fines or loss of a gaming license. Pet. 29–30; Ex. 1003 ¶ 141.

Patent Owner’s opposition to the foregoing obviousness analysis is not persuasive. In particular, Patent Owner mischaracterizes Petitioner’s position on motivation to be limited to ensuring jurisdictional compliance in a generic sense. As indicated above, the Petition is much more specific in this regard: the cited motivation arises from Nguyen’s recognition of the need to comply with jurisdictional gaming requirements such as a player’s age and location, yet failing to account for jurisdictional gaming requirements relating to device authorization, which is taught by Lewin.

We have reviewed Mr. Williams’s deposition testimony cited by Patent Owner. *See* Ex. 2004, 34:13–16, 51:4–9, 54:4–12, 58:5–66:12. Viewed most favorably to Patent Owner’s arguments, this testimony establishes Mr. Williams does not have detailed personal knowledge of specific regulatory requirements that apply to the wager-based gaming industry. *See id.* For example, he did not know whether there are different rules for games of chance versus games of skill; or how legal age requirements might vary between jurisdictions; or how regulations may limit

permitted locations for wager-based activities. *See id.* at 34:13–16, 51:4–9, 63:2–64:4. Nonetheless, this testimony does not negate Nguyen’s failure to account for device authorization requirements that vary between jurisdictions, which Lewin discloses the need to do.

Concerning Exhibits 1041 and 1042, to which Patent Owner objects, Mr. Williams cites them for the unremarkable proposition that a person of ordinary skill in the art “would have understood that failing to comply with all jurisdictional gaming regulations could result in fines, losses of gaming licenses, or even criminal penalties, so complying with authorization requirements of various jurisdictions would . . . be necessary.” Ex. 1003 ¶ 141 (citing Ex. 1041, 2; Ex. 1042, 5). We find the exhibits tend to support that proposition.

Exhibit 1041 is a “Nevada Legal Gambling Guide” dated in May 2020, and discusses how “[r]unning an unlicensed gambling establishment is likely to result in felony charges” and “Nevada regulations dealing with unlawful gambling are very harsh.” Pet. viii; Ex. 1041, 1–2. This Guide does not, however, appear to address what consequences might ensue for a licensed gambling operation failing to comply with Nevada regulations concerning legalized gambling. Exhibit 1041, 2.

Exhibit 1042 is Regulation 5 of the Nevada Control Board Gaming Commission, “Rev. 1/20.” *See* Pet. viii; Ex. 1042, 1. It provides: “Violation of any provision of the Nevada Gaming Control Act or of these regulations by a licensee, the licensee’s agent or employee shall be . . . grounds for suspension or revocation of a license.” Ex. 1042, 5 (§§ 5.030 & 5.040). Further, “the Commission may impose a condition upon any license or order

of registration to require implementation of a compliance review and reporting system by the licensee or registrant.” *Id.* (§ 5.045).

Exhibits 1041 and 1042 both appear to be dated in 2020, after the invention of the ’231 patent in August 2010. Ex. 1041, 1 (“05/29/2020”); Ex. 1042, 1 (“Rev. 1/20”); Ex. 1001, code (60). However, it appears the proposition for which Mr. Williams cites the Exhibits was as true in 2010 as in 2020. *See* Ex. 1003 ¶ 141. In addition, Mr. Farley agreed that licensed gaming operators have an incentive to comply with gaming regulations. *See* Ex. 1055, 26:3–23, 82:4–85:3, 94:19–95:5, 100:19–22, 157:5–11; Ex. 2005 ¶ 27.

Finally, although not challenged post-institution by Patent Owner, we conclude a preponderance of the evidence supports Petitioner’s contention that a POSITA would have had a reasonable expectation of success in combining Nguyen and Lewin to reach the invention of claim 1. We find both systems “use remote servers to verify compliance with jurisdictional requirements,” and “Lewin’s device authentication functionality could be readily incorporated into Nguyen’s network device 145 (which already functions as a verification server and gaming server).” Pet. 30–31 (citing Ex. 1004, Fig. 1, ¶¶ 37–39; Ex. 1005, Fig. 1, ¶ 36); Ex. 1003 ¶ 142. We also find Lewin teaches that the device information needed for Lewin’s device authentication verification (i.e., the device ID, MAC address, or serial number) may be obtained as part of a new player application process, which could be incorporated into Nguyen’s pre-existing player registration process. Pet. 20–21, 31 (citing Ex. 1004 ¶¶ 45–46; Ex. 1005 ¶¶ 45, 53); Ex. 1003 ¶¶ 130–131, 142.

Thus, we determine a POSITA would have been motivated to modify Nguyen's Internet casino 125, based on Lewin, to determine that the device 110, 155 of user 105 is authorized to use the casino's gaming service based on a characteristic of the device other than location, before allowing the device to be used for gaming activity, with a reasonable expectation of success.

d) Conclusion as to Claim 1

We conclude a preponderance of the evidence establishes claim 1 is unpatentable as having been obvious over Nguyen and Lewin.

4. Claims 2, 3, 5, 7, and 21–23

Petitioner provides arguments and evidence, including testimony from Mr. Williams, in support of contending claims 2, 3, 5, 7, and 21–23 are unpatentable as having been obvious over Nguyen and Lewin. Pet. 36–39, 41–46; Ex. 1003 ¶¶ 149–150, 152–168. Patent Owner does not challenge these arguments, other than attacking Petitioner's obviousness analysis of claim 1, as discussed above. *See, e.g.*, PO Resp. 2, 16, 20 (grouping independent claims 1 and 21 together); *id.* at 14, 33–34 (grouping dependent claims with independent claims).

We find a preponderance of the evidence, as cited by Petitioner, supports Petitioner's contention that Nguyen's Internet casino 125 satisfies the limitations recited in these claims that are not recited in claim 1. We adopt the supporting analysis in the Petition as our own in this Decision. Thus, we conclude these claims are unpatentable as having been obvious over Nguyen and Lewin.

5. *Claim 4*

Claim 4 recites: “The apparatus of claim 1, in determining that the device is authorized include determining that a mobile telephone number of the device has been signed up to have access to the gaming service.”

Ex. 1001, 76:34–37.

Petitioner provides arguments and evidence, including testimony from Mr. Williams, in support of contending claim 4 is unpatentable as having been obvious over Nguyen and Lewin. Pet. 40; Ex. 1003 ¶ 151. Patent Owner does not challenge these arguments, other than attacking Petitioner’s obviousness analysis of claim 1, as discussed above. *See, e.g.*, PO Resp. 14, 33–34 (grouping dependent claims with independent claims).

We find Nguyen’s Internet casino 125 gathers the telephone number of device 110, 155 as part of an initial registration process, or during subsequent game playing sessions. *See* Ex. 1004 ¶¶ 46, 59, 66; Pet. 40; Ex. 1003 ¶ 151. We find Nguyen’s casino 125 uses this telephone number to call device 110, 155 to gather voice verification data to authenticate the user for game play. *See* Ex. 1004 ¶¶ 60–64; Pet. 40; Ex. 1003 ¶ 151. However, Nguyen’s casino 125 does not use the telephone number to determine that device 110, 155 has been signed up to have access to the casino, as recited in claim 4. *See* Pet. 40; Ex. 1003 ¶ 151.

Nonetheless, we find Lewin’s gaming apparatus “checks to see if the player has an account.” Ex. 1005, Fig. 5 (step 504), ¶ 52; Pet. 40; Ex. 1003 ¶ 151. Mr. Williams concludes: “In view of these teachings of Nguyen and Lewin, it would have been obvious to use the telephone number provided by the player when requesting to initiate a gaming session with Nguyen’s Internet casino to verify that the player has an account (i.e., has signed up to

have access to the gaming service) as described in Lewin.” Ex. 1003 ¶ 151; Pet. 40. We conclude this testimony establishes a sufficient motivation to combine Nguyen and Lewin to practice the invention of claim 4.

Thus, we conclude a preponderance of the evidence establishes claim 4 is unpatentable as having been obvious over Nguyen and Lewin.

B. Obviousness over Nguyen, Lewin, and Verteuil

Petitioner asserts claims 1–11, 13, 15–17, and 21–23 of the ’231 patent would have been obvious over Nguyen, Lewin, and Verteuil. Pet. 6, 13, 47–63. Patent Owner opposes. PO Resp. 34–35. We conclude a preponderance of the evidence supports Petitioner’s assertions as to claims 6, 8–11, 13, and 15–17, but not claims 1–5, 7, and 21–23. We begin our analysis with a brief summary of Verteuil, then we address the parties’ contentions as to obviousness.

1. Verteuil Disclosure

Verteuil discloses an efficient method for monitoring the location of mobile units, such as wireless telephones, PDAs, and the like, relative to service zones in a telecommunications network. Ex. 1006, code (57), ¶¶ 1–2. The services include fleet tracking services, and location-based billing applications. *Id.* ¶ 2.

According to Verteuil, “first time location information for a mobile unit is received.” *Id.* ¶ 18. The first location information is “compared to location(s) of interest for that mobile unit,” to determine “a status of the mobile unit (e.g. in-zone, out of zone, a distance from a boundary of the zone, etc.).” *Id.* “Based on this status, a second time for requesting updated location information may be set.” *Id.* Verteuil seeks to enhance wireless

network efficiency by “calculat[ing] a time when the status of the mobile unit may be expected to change,” when setting the second location determination time. *Id.* ¶ 14. This time-setting algorithm may account for many variables, including “a distance between the first location . . . and a boundary of a location of interest,” “a velocity of travel associated with the mobile unit,” and “a direction of travel associated with the mobile unit.” *Id.* ¶¶ 14, 18, 43, 51–52.

2. *Claims 1–5, 7, and 21–23*

Claims 1–5, 7, and 21–23 are subject to Petitioner’s first ground (obviousness over Nguyen and Lewin) and this second ground (obviousness over Nguyen, Lewin, and Verteuil). *See* Pet. 6, 16, 47. In the second ground, Petitioner relies on Verteuil instead of Nguyen, “[t]o the extent it is found” Nguyen does not disclose the limitations in independent claims 1 and 21 requiring a processor or a gaming service to determine a period of time to elapse until a next location redetermination.⁶ *Id.* at 47–48; Ex. 1003 ¶¶ 170–173. Petitioner provides arguments and evidence, including testimony from Mr. Williams, in support of this alternative ground challenging claims 1–5, 7, and 21–23. Pet. 47–48, 53–56; Ex. 1003 ¶¶ 170–173, 193–198.

⁶ The pertinent limitations recite that the processor or gaming service must “determine a period of time relative to the determination of the first location after which a location redetermination of the device should be made, in which the period of time is determined based on a distance of the first location from a boundary of an area,” and “determine that the period of time has passed.” *See* Pet. 47–48; Ex. 1013 (Petitioner’s claim listing).

In the Institution Decision, we concluded Petitioner’s obviousness analysis in this second ground for this group of claims may be deficient, as lacking the requisite articulation of specific reasons why a POSITA would have combined Nguyen with Verteuil to practice the claimed inventions, and as lacking an explanation as to how this would have been achieved with a reasonable expectation of success. *See* Inst. Dec. 26–28. We nonetheless instituted trial as to Petitioner’s second ground challenging these claims, due to Office policy implementing *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018) (“*SAS*”). *Id.* at 24–25, 28.

Patent Owner and Petitioner both elected not to address this aspect of the Institution Decision in their post-institution briefs. *See* PO Resp. 34–35 (arguments against Petitioner’s second ground); Pet. Reply 27 (arguing Patent Owner “does not substantively dispute that the various combinations of prior art in Grounds 2–7 disclose the limitations of the challenged claims, or that a POSITA would have and could have combined them as proposed in the Petition”). Thus, the record on this issue has not changed materially since we instituted trial. *See generally* CTPG 73 (“[I]n response to issues arising from the Supreme Court’s decision in *SAS* (138 S. Ct. at 1358), the Board will permit the petitioner, in its reply brief, to address issues discussed in the institution decision.”).

We conclude Petitioner’s case for the obviousness of these claims falls short, for the same reasons set forth in the Institution Decision. Specifically, as discussed above, Petitioner’s obviousness analysis for this ground begins by assuming Nguyen *does not disclose* a processor or a gaming service that determines a period of time to elapse until a next location redetermination, as recited in claims 1 and 21. *See* Pet. 47–48;

Ex. 1003 ¶¶ 170–173. But then, when discussing why it would have been obvious to modify Nguyen to include such a determination, Petitioner expressly relies on Nguyen as *disclosing* “determining a frequency of subsequent location determinations based on a distance to a boundary of an area of interest.” Pet. 54 (citing Ex. 1004 ¶ 71); Ex. 1003 ¶ 195. Petitioner similarly refers to “Nguyen’s approach of *determining the frequency* for determining a player’s location during a gaming session,” which “may be based on the player’s proximity to a jurisdiction in which Internet gaming would not be permitted.” Pet. 54 (emphasis added) (citing Ex. 1004 ¶ 71); Ex. 1003 ¶ 196. We are, therefore, unable to reconcile Petitioner’s basis for presenting this second ground (Pet. 47–48) with Petitioner’s obviousness analysis of these claims (*id.* at 53–54). As a result, it is not clear exactly what Petitioner cites Nguyen as disclosing or as not disclosing in relation to the proposed obviousness of claims 1–5, 7, and 21–23 in the second ground.

Petitioner does go on to state that “Nguyen . . . does not explicitly describe *how* the frequency might vary depending on the factors described in Nguyen.” *Id.* at 54–55 (emphasis added) (citing Ex. 1004 ¶¶ 71–72); Ex. 1003 ¶ 196. However, the import of this statement is unclear, when it is read in the context of what comes before the statement in the Petition, as well as the subsequent statement that Nguyen “determine[s] a time period between location determinations based on various criteria, including distance from a boundary of an area and other criteria.” Pet. 55.

Thus, we conclude Petitioner has not met its burden to articulate a persuasive basis to support the contention that claims 1–5, 7, and 21–23 are unpatentable as having been obvious over Nguyen, Lewin, and Verteuil. *See* 35 U.S.C. § 316(e); 37 C.F.R. §§ 42.22(a)(2) & 42.104(b).

3. *Claims 8–11, 13, 15, and 16*

Claims 8–11, 13, 15, and 16, all of which depend directly or indirectly from independent claim 1, are subject only to Petitioner’s second ground, in which Petitioner adds Verteuil to the underlying combination of Nguyen and Lewin from the first ground. *See* Pet. 6, 48, 53. As discussed above, a preponderance of the evidence establishes claim 1 is unpatentable as having been obvious over Nguyen and Lewin. *See supra* Section VII.A.3.

These dependent claims specify various ways of determining the “period of time . . . after which a location redetermination of the device should be made” in claim 1. Ex. 1001, 76:17–19, 76:46–58, 76:63–65, 77:3–9. Specifically, the period of time “is larger when the distance [from an area boundary] is larger and smaller when the distance is smaller” (claim 8); or “is proportionate to the distance” (claim 9); or is “based on a speed and the distance” (claim 10) and “is proportional to the speed and the distance” (claim 11); or is “based on the speed, the distance, and a direction” (claim 13) “in which the direction includes a direction relative to a direction of travel of the device” (claim 15); or “is greater when the boundary includes a boundary of a state than when the boundary includes a boundary within a state” (claim 16). *Id.*

Petitioner provides arguments and evidence, including testimony from Mr. Williams, in support of the second ground’s challenge to these claims. Pet. 47–56; Ex. 1003 ¶¶ 169–198. In particular, Petitioner contends Verteuil, or Verteuil in combination with Nguyen, discloses the various ways of determining a period of time set forth in these claims. Pet. 47–53; Ex. 1003 ¶¶ 170–192. Petitioner asserts it would have been obvious to modify Nguyen’s Internet casino 125, based on Verteuil, to determine a

location redetermination period of time in the various ways specified by these claims. *See* Pet. 53–56; Ex. 1003 ¶¶ 193–198.

Patent Owner firstly argues “Verteuil fails to remedy any of the deficiencies of Nguyen and Lewin” cited by Patent Owner in opposition to Petitioner’s first ground, so those deficiencies carry forward here to Petitioner’s second ground. PO Resp. 34–35. However, as discussed in Section VII.A above, we determine Petitioner’s first ground is supported by a preponderance of the evidence, including the specific aspects challenged by Patent Owner. Thus, there are no deficiencies that carry forward from the first ground to the second ground.

Patent Owner secondly disputes “whether Petitioner’s [second] ground is sufficiently articulated.” PO Resp. 35. We determine the Petition clearly explains Verteuil is cited in this second ground, in case the first ground fails on the basis that Nguyen does not disclose a processor or a gaming service to determine a period of time to elapse until a next location redetermination, as is recited in claim 1. *See* Pet. 47–48. We also determine the Petition clearly explains its additional reliance on Verteuil, or Verteuil in combination with Nguyen, as disclosing the various ways of determining a period of time set forth in the dependent claims, and why it would have been obvious to combine these disclosures in the fashion claimed. *See id.* at 47–56. We find these to be adequately concise, well-organized, and easy-to-follow arguments.

Patent Owner thirdly asserts “Verteuil discloses a dynamic location tracking method that is intended for applications such as fleet tracking,” and “is not related to internet gaming.” PO Resp. 35 (citing Ex. 1006 ¶¶ 1–2). Patent Owner does not, however, provide any further explanation for why

Petitioner's reliance on Verteuil in the second ground might be deficient based on this difference. *See id.*

Upon review of the foregoing, we first find a preponderance of the evidence supports Petitioner's contention that Verteuil, or Verteuil in combination with Nguyen, discloses the various ways of determining a period of time set forth in claims 8–11, 13, 15, and 16. *See* Pet. 47–53 (citing Ex. 1004 ¶¶ 4, 71, 79; Ex. 1006, codes (54) & (57), ¶¶ 14, 18, 32, 43, 51–52); Ex. 1003 ¶¶ 170–192. We adopt the supporting analysis in the Petition as our own in this Decision.

We next conclude a preponderance of the evidence supports Petitioner's contentions of obviousness of claims 8–11, 13, 15, and 16 based on Nguyen and Verteuil. We determine it would have been obvious to modify the player location verification system of Nguyen to include “Verteuil's techniques for determining a period of time after which a location redetermination of a device should be made.” Pet. 53; Ex. 1003 ¶ 193. For example, this would have predictably enabled “Nguyen's system to determine the frequency of subsequent location determinations during a gaming session based on one or more of the variables that reflect the movements of a mobile device according to the techniques taught by Verteuil.” Pet. 53; Ex. 1003 ¶ 193.

We conclude this combination would have been motivated by Nguyen's disclosure “that the frequency for determining the player's location may be based on the player's proximity to a jurisdiction in which Internet gaming would not be permitted,” without “explicitly describ[ing] *how* the frequency might vary depending on” the proximity. Pet. 54–55 (emphasis added) (citing Ex. 1004 ¶¶ 71–72); Ex. 1003 ¶ 196. This

disclosure would have caused a POSITA to look to other references for “additional details regarding how to determine a time period between location determinations based on . . . distance from a boundary of an area and other criteria described in Nguyen.” Pet. 55; Ex. 1003 ¶ 196. We determine that Verteuil is such a reference, given its disclosure that its methods are “applicable to a variety of location-based applications in a variety of network environments.” Pet. 55 (quoting Ex. 1006 ¶ 27); Ex. 1003 ¶ 196. We further determine that this combination would have been motivated by Verteuil’s description of its location tracking methods as “allow[ing] for efficient use of network resources” (Ex. 1006, code (57)), and as “resulting in considerable benefits relating to network resource usage” (*id.* ¶ 7). Pet. 55–56 (additionally citing Ex. 1006 ¶¶ 14, 18); Ex. 1003 ¶ 197.

We recognize “Verteuil is not specific to remote gambling,” but we nonetheless find Nguyen and Verteuil “are pertinent to the same problem” of “determining the location of a mobile device” by “determining a frequency of subsequent location determinations based on a distance to a boundary of an area of interest.” Pet. 54 (citing Ex. 1004 ¶ 71; Ex. 1006, code (57), ¶¶ 14, 43); Ex. 1003 ¶ 195. This similarly in disclosures would have led a POSITA to consider the potential application of Verteuil’s mobile device location-tracking technology to Nguyen’s mobile device location-tracking technology.

Finally, although not challenged post-institution by Patent Owner or disputed by Mr. Farley, we conclude a preponderance of the evidence supports Petitioner’s contention that a POSITA would have had a reasonable expectation of success in combining Nguyen and Verteuil to reach the

invention of these claims. Mr. Williams testifies persuasively that “[a] POSITA would have recognized that Nguyen’s Internet casino is a location-based service application and that Verteuil’s dynamic location polling application could be incorporated therein.” Ex. 1003 ¶ 198; Pet. 56. This is suggested, for example, by Verteuil’s disclosure that its “dynamic location polling application” may be “incorporated into a location-based service application.” Ex. 1006 ¶ 31; Ex. 1003 ¶ 198; Pet. 56.

Thus, we determine a POSITA would have been motivated to modify Nguyen’s Internet casino 125, based on Verteuil, to improve upon Nguyen’s location tracking system, by incorporating Verteuil’s mobile device location tracking methods, thereby leading to the inventions recited in claims 8–11, 13, 15, and 16 with a reasonable expectation of success. We conclude a preponderance of the evidence establishes these claims are unpatentable as having been obvious over Nguyen, Lewin, and Verteuil.

4. *Claims 6 and 17*

Claims 6 and 17, both of which depend directly from independent claim 1, are subject only to Petitioner’s second ground, in which Petitioner adds Verteuil to the underlying combination of Nguyen and Lewin from the first ground. *See* Pet. 6, 56–57. Claim 6 recites “*querying a geofencing service*,” and claim 17 recites “the boundary includes a boundary of a *geofence*.” Ex. 1001, 76:41–43, 77:9–10 (emphases added). As discussed above, a preponderance of the evidence establishes claim 1 is unpatentable as having been obvious over Nguyen and Lewin. *See supra* Section VII.A.3.

Petitioner provides arguments and evidence, including testimony from Mr. Williams, in support of the second ground’s challenge to claims 6

and 17. Pet. 56–63; Ex. 1003 ¶¶ 199–214. In addressing the geofencing requirement of these claims, Petitioner argues Nguyen discloses determining the location of its mobile device 110, 155 in different ways, such as by querying the device’s GPS data, but not by querying a geofencing service. Pet. 56–57 (citing Ex. 1004 ¶¶ 66–73, 79); Ex. 1003 ¶ 199. Patent Owner does not challenge this reliance on Nguyen, which we conclude is supported by a preponderance of the evidence. *See* Ex. 1004 ¶¶ 66–70.

Petitioner then contends the ’231 patent “acknowledges that geofencing services were known in the prior art and commercially available.” Pet. 57 (citing Ex. 1001, 36:67–37:8); Ex. 1003 ¶ 200. Patent Owner does not challenge this reliance on the ’231 patent, which we conclude is supported by a preponderance of the evidence. *See* Ex. 1001, 36:67–37:8 (“[A] gaming operator may determine that the customer is playing in Nevada by using geofence capability (*e.g.*, *Sprint geofencing services*).” (emphasis added)).

Petitioner next contends and Mr. Williams testifies that: “Although Verteuil does not use the term ‘geofencing,’ a POSITA would recognize that Verteuil discloses a geofencing service,” which “is consistent with the ’231 [p]atent’s description of a geofencing service.” Pet. 57–60 (citing Ex. 1006, code (54), Fig. 1, ¶¶ 18, 20, 31–33, 38; Ex. 1001, 56:15–17, 52:59–64, 53:33–34, 54:1–10); Ex. 1003 ¶¶ 201–206. Patent Owner does not challenge this contention, which we conclude is supported by a preponderance of the evidence cited by Petitioner.

Petitioner then asserts it would have been obvious to use, within Nguyen’s system, “Verteuil’s technique of querying a geofencing service and determining a period of time for performing subsequent location

verifications based on the distance to a boundary of a geofence.” Pet. 60; Ex. 1003 ¶ 207. We agree. We particularly conclude this would have been done to minimize use of network resources, based on the evidence and analysis presented in the Petition, which we adopt as our own in this Decision. *See* Pet. 61–63 (citing Ex. 1004 ¶ 35; Ex. 1006, code (57), ¶¶ 4, 6, 14, 18, 20–21, 39); Ex. 1003 ¶¶ 210–212. We also determine this would have been achieved with a reasonable expectation of success, based on the evidence and analysis presented in the Petition, which we adopt as our own in this Decision. *See* Pet. 63 (citing Ex. 1004 ¶ 67; Ex. 1006 ¶¶ 20, 38); Ex. 1003 ¶ 213–214.

Patent Owner’s opposition is not persuasive, for reasons already provided above, and also because Patent Owner does not address the geofencing details of Petitioner’s case for obviousness, as summarized above. *See, e.g.*, PO Resp. 34–35.

Thus, we conclude a preponderance of the evidence establishes claims 6 and 17 are unpatentable as having been obvious over Nguyen, Lewin, and Verteuil.

C. Obviousness over Nguyen, Lewin, Verteuil, and Raith

Petitioner asserts claims 12 and 14 of the ’231 patent would have been obvious over Nguyen, Lewin, Verteuil, and Raith. Pet. 6, 14, 63–67. Patent Owner opposes. PO Resp. 35–36. We conclude a preponderance of the evidence supports Petitioner’s assertions as to both claims. We begin our analysis with a brief summary of Raith, then we address the parties’ contentions as to obviousness.

1. Raith Disclosure

Raith discloses a method to control the update frequency of a positioning device by a mobile terminal. Ex. 1007, code (54). In particular, “[t]he mobile terminal updates its position at a frequency that is a function of its distance from [a] reference position, or as a function of the rate of change of its distance from the reference position.” *Id.* at code (57). For example, the mobile terminal determines its current position and then “computes the distance D of the current position to a reference position corresponding to a point of interest.” *Id.* ¶ 18. The mobile terminal additionally “may compute the speed or velocity of the mobile terminal . . . based on two or more position estimates over a period of time,” and then “adjust[] the position update frequency as needed based on the computed distance D, velocity V, or a combination of the distance D and velocity V.” *Id.*

2. Claim 12

Claim 12 recites determining the period of time for making a location redetermination based on *a speed* and the distance of the first location from an area boundary (parent claims 1 and 10), by “determin[ing] a location prior to the first location and determin[ing] the speed based on the first location and the prior location.” Ex. 1001, 76:17–25, 76:53–55, 76:59–62.

Petitioner challenges parent claim 10 as having been obvious over Nguyen, Lewin, and Verteuil, as discussed in Section VII.B.3 above. *See* Pet. 48, 50, 53–56; Ex. 1003 ¶¶ 179–181, 193–198. Petitioner then challenges claim 12 as having been obvious additionally over Raith, contending Raith discloses the specific speed determination set forth in claim 12, which it would have been obvious to implement in the system of

Nguyen, Lewin, and Verteuil. Pet. 63–67; Ex. 1003 ¶¶ 215–218, 222–226. For the following reasons, we agree.

We find “Nguyen and Verteuil both disclose performing *multiple location checks*” over time, so they both contemplate “determin[ing] a location prior to the first location” as recited in claim 12. Pet. 64 (emphasis added) (citing Ex. 1004 ¶ 71; Ex. 1006 ¶¶ 14, 18, 43, 50–54); Ex. 1003 ¶ 216. But, Nguyen and Verteuil “do not explicitly disclose *determining speed . . . based on the first location and the prior location.*” Pet. 64 (emphases added); Ex. 1003 ¶ 216.

We next find that a POSITA “would have known that speed . . . of travel of a mobile device can be determined based on a sequence of two or more locations determined for the mobile device,” as is confirmed by Raith. Pet. 64, 65 (citing Ex. 1007 ¶ 18); Ex. 1003 ¶¶ 217–218, 222 (further citing Ex. 1052, 1). Thus, we determine it would have been obvious “to combine Raith’s teaching that speed . . . can be computed based on two or more position estimates over a period of time with” the location determination system of Nguyen, Lewin, and Verteuil, which already contemplates calculating a location redetermination time based on the speed of a mobile device. Pet. 65; Ex. 1003 ¶ 222.

We determine this combination would have been motivated by Nguyen’s and Verteuil’s common disclosure of “determining a frequency of location checks based on various criteria” including speed, without “explicitly disclos[ing] *how* [speed] can be determined.” Pet. 66 (emphasis added); Ex. 1003 ¶¶ 224–225. This common disclosure of Nguyen and Verteuil would have caused a POSITA to look to other “references addressing similar functionality, such as Raith, for details regarding how

[speed] can be computed.” Pet. 66–67; Ex. 1003 ¶¶ 224–225. We further determine this could have been accomplished with a reasonable expectation of success, based on Mr. Williams’s testimony in this regard, which we find persuasive. *See* Pet. 67; Ex. 1003 ¶ 226.

Patent Owner’s opposition is not persuasive. Patent Owner asserts Raith does not “cure any of the deficiencies of Petitioner’s proposed combination of Nguyen and Lewin” cited by Patent Owner in opposition to Petitioner’s first ground, so those deficiencies carry forward here to this ground. PO Resp. 35–36. However, as discussed in Section VII.A above, we determine Petitioner’s first ground is supported by a preponderance of the evidence, including the specific aspects challenged by Patent Owner. Thus, there are no deficiencies that carry forward from the first ground to this ground.

We conclude a preponderance of the evidence establishes claim 12 is unpatentable as having been obvious over Nguyen, Lewin, Verteuil, and Raith.

3. *Claim 14*

Claim 14 recites determining the period of time for making a location redetermination based on a speed, the distance of the first location from an area boundary, and *a direction* (from parent claims 1, 10 and 13), by “determin[ing] a location prior to the first location and determin[ing] the direction based on the first location and the prior location.” Ex. 1001, 76:17–25, 76:53–55, 76:63–77:2.

Petitioner challenges parent claim 13 as having been obvious over Nguyen, Lewin, and Verteuil, as discussed in Section VII.B.3 above. *See*

Pet. 48, 50, 53–56; Ex. 1003 ¶¶ 179–181, 184–185, 193–198. Petitioner then challenges claim 14 as having been obvious additionally over Raith, contending Raith discloses the specific direction determination set forth in claim 14, which it would have been obvious to implement in the system of Nguyen, Lewin, and Verteuil. Pet. 63–67; Ex. 1003 ¶¶ 219–226. For the following reasons, we agree.

We find “Raith’s disclosure of computing ‘velocity’ based on two or more position estimates over a period of time teaches” the limitation recited in claim 14. Pet. 64–65 (citing Ex. 1007 ¶ 18); Ex. 1003 ¶¶ 220–221. In particular, we are persuaded by Mr. Williams’s testimony that a POSITA would understand that determining a mobile device’s “velocity,” as is disclosed in Raith, “by definition . . . takes into account both magnitude *and direction*,” as recited in claim 14. Ex. 1003 ¶¶ 220–221 (emphasis by Mr. Williams) (citing Ex. 1038, 3–4).

We next determine a POSITA would have been motivated to incorporate Raith’s direction determination into the system of Nguyen, Lewin, and Verteuil with a reasonable expectation of success, for basically the same reasons provided above regarding the speed determination of claim 12, with direction of travel substituted for speed of travel. *See* Pet. 65–67; Ex. 1003 ¶¶ 222–226; *supra* Section VII.C.2.

Patent Owner’s opposition is not persuasive. Patent Owner asserts Raith does not “cure any of the deficiencies of Petitioner’s proposed combination of Nguyen and Lewin” cited by Patent Owner in opposition to Petitioner’s first ground, so those deficiencies carry forward here to this ground. PO Resp. 35–36. However, as discussed in Section VII.A above, we determine Petitioner’s first ground is supported by a preponderance of

the evidence, including the specific aspects challenged by Patent Owner. Thus, there are no deficiencies that carry forward from the first ground to this ground.

We conclude a preponderance of the evidence establishes claim 14 is unpatentable as having been obvious over Nguyen, Lewin, Verteuil, and Raith.

D. Obviousness over Nguyen, Lewin, and Morrison

Petitioner asserts claims 4 and 18 of the '231 patent would have been obvious over Nguyen, Lewin, and Morrison. Pet. 6, 14, 67–73. Patent Owner opposes. PO Resp. 35–36. We conclude a preponderance of the evidence supports Petitioner's assertions as to both claims. We begin our analysis with a brief summary of Morrison, then we address the parties' contentions as to obviousness.

1. Morrison Disclosure

Morrison discloses a system and method for allowing remote wagers to be placed using a cell phone. Ex. 1009, code (54), ¶ 51. As illustrated in Figure 3, wagering system 206 provides wagering games to cell phone 202C via the Internet 210. *Id.* ¶¶ 42–43. The player installs a software application on the cell phone, pursuant to which wagering system 206 “receives handset identification (e.g., the telephone number from the cell phone . . .).” *Id.* ¶¶ 51–52, Fig. 6 (steps 252 & 254). Wagering system 206 then uses the telephone number, which “is specific to (e.g., the sim card) in the cell phone,” to “ensure[] that the sim card is being used with the correct handset” that has been “assigned to the player's account.” *Id.* ¶ 54, Fig. 6 (step 256).

Morrison also discloses that, as part of allowing the player to place a wager via wagering system 206, the cell phone “shuts off all other communication ports” that are not being used to communicate with system 206. *Id.* ¶¶ 47–49, Fig. 5 (step 224).

2. *Claim 4*

Claim 4 recites: “The apparatus of claim 1, in determining that the device is authorized include determining that a mobile telephone number of the device has been signed up to have access to the gaming service.”
Ex. 1001, 76:34–37.

Petitioner challenges claims 1 and 4 as having been obvious over Nguyen and Lewin, as discussed in Section VII.A above. *See* Pet. 16–36, 40; Ex. 1003 ¶¶ 125–148, 151. In the present alternative ground challenging claim 4, Petitioner continues to rely on Nguyen and Lewin for the parent claim 1, and contends “[t]o the extent” they do “not teach” the limitation added by claim 4, then Morrison discloses determining a mobile telephone number of a device has been signed up to have access to a gaming service, which it would have been obvious to implement in the system of Nguyen and Lewin. Pet. 67–71; Ex. 1003 ¶¶ 227–234. For the following reasons, we agree.

We find Morrison discloses determining a remote, mobile device is authorized to use a gaming service by determining that a mobile telephone number of the device has been signed up to have access to the gaming service. Ex. 1009 ¶¶ 51–52, 54; Pet. 67–68; Ex. 1003 ¶¶ 228–229. We determine it would have been obvious to modify the device authentication system of Nguyen and Lewin to include Morrison’s telephone number

verification, to improve the device verification by providing “[an] additional layer of security’ by ‘ensur[ing] that the registered remote device is the actual remote device being used to place the wagers and communicates [sic] with the wagering system (e.g., server).” Pet. 68–70 (quoting Ex. 1009 ¶ 34, and also citing *id.* ¶ 54); Ex. 1003 ¶¶ 230–233. We further determine this could have been accomplished with a reasonable expectation of success, based on Mr. Williams’s testimony in this regard, which we find persuasive. *See* Pet. 70–71; Ex. 1003 ¶ 234.

Patent Owner’s opposition is not persuasive. Patent Owner asserts Morrison does not “cure any of the deficiencies of Petitioner’s proposed combination of Nguyen and Lewin” cited by Patent Owner in opposition to Petitioner’s first ground, so those deficiencies carry forward here to this ground. PO Resp. 35–36. However, as discussed in Section VII.A above, we determine Petitioner’s first ground is supported by a preponderance of the evidence, including the specific aspects challenged by Patent Owner. Thus, there are no deficiencies that carry forward from the first ground to this ground.

We conclude a preponderance of the evidence establishes claim 4 is unpatentable as having been obvious over Nguyen, Lewin, and Morrison.

3. *Claim 18*

Claim 18 recites: “The apparatus of claim 1, in which determining that the device is authorized includes determining that one or more communication ports of the device are disabled.” Ex. 1001, 77:11–13.

Petitioner challenges parent claim 1 as having been obvious over Nguyen and Lewin, as discussed in Section VII.A above. *See* Pet. 16–36;

Ex. 1003 ¶¶ 125–148. Petitioner then challenges claim 18 as having been obvious additionally over Morrison, contending Morrison discloses determining one or more communication ports of a mobile device are disabled prior to allowing wagering games to be played, which it would have been obvious to implement in the system of Nguyen and Lewin. Pet. 71–73; Ex. 1003 ¶¶ 235–240. For the following reasons, we agree.

We find Morrison discloses determining one or more communication ports of a mobile device are disabled, prior to allowing wagering games to be played. Ex. 1009 ¶ 49; Pet. 71; Ex. 1003 ¶ 236. We determine it would have been obvious to modify the device authentication system of Nguyen and Lewin to include Morrison’s teaching of shutting off communication ports, “in order to ensure compliance with jurisdictional requirements” by circumventing player attempts to gamble while located in a jurisdiction that does not permit gambling. Pet. 71–72 (citing Ex. 1009 ¶ 33); Ex. 1003 ¶¶ 237–239. We further determine this could have been accomplished with a reasonable expectation of success, based on Mr. Williams’s testimony in this regard, which we find persuasive. *See* Pet. 73; Ex. 1003 ¶ 240.

Patent Owner’s opposition is not persuasive. Patent Owner asserts Morrison does not “cure any of the deficiencies of Petitioner’s proposed combination of Nguyen and Lewin” cited by Patent Owner in opposition to Petitioner’s first ground, so those deficiencies carry forward here to this ground. PO Resp. 35–36. However, as discussed in Section VII.A above, we determine Petitioner’s first ground is supported by a preponderance of the evidence, including the specific aspects challenged by Patent Owner. Thus, there are no deficiencies that carry forward from the first ground to this ground.

We conclude a preponderance of the evidence establishes claim 18 is unpatentable as having been obvious over Nguyen, Lewin, and Morrison.

E. Obviousness over Nguyen, Lewin, and Wun

Petitioner asserts claim 18 of the '231 patent would have been obvious over Nguyen, Lewin, and Wun. Pet. 6, 15, 73–77. Patent Owner opposes. PO Resp. 35–36. We conclude a preponderance of the evidence supports Petitioner's assertion. We begin our analysis with a brief summary of Wun, then we address the parties' contentions as to obviousness.

1. Wun Disclosure

Wun discloses a method for monitoring and controlling photographs taken by a wireless handheld communication device in a proprietary area. *See* Ex. 1010, codes (54) & (57). As part of this control, “an organization may wish to restrict the operation of the device such that it would only be enable[d] to operate on a wide area local network such as Wi-Fi connection in the organizations facilities and prevent the device from communicating via other communication networks,” such as “BLUETOOTH® communications.” *Id.* ¶ 79.

2. Claim 18

Claim 18 recites: “The apparatus of claim 1, in which determining that the device is authorized includes determining that one or more communication ports of the device are disabled.” Ex. 1001, 77:11–13.

Petitioner challenges parent claim 1 as having been obvious over Nguyen and Lewin, as discussed in Section VII.A above. *See* Pet. 16–36; Ex. 1003 ¶¶ 125–148. Petitioner then challenges claim 18 as having been

obvious additionally over Wun, contending Wun discloses determining one or more communication ports of a mobile device are disabled, which it would have been obvious to implement in the system of Nguyen and Lewin. Pet. 73–77; Ex. 1003 ¶¶ 241–249. For the following reasons, we agree.

We find Wun discloses determining one or more communication ports of a mobile device are disabled, as part of maintaining control of a restricted and proprietary area. Ex. 1010, code (57), ¶¶ 43, 79, 83, 87; Pet. 73–75; Ex. 1003 ¶¶ 243–244. We determine it would have been obvious to modify the device authentication system of Nguyen and Lewin to include “Wun’s teaching of restricting the functionality of a device to ensure compliance with jurisdictional requirements,” by “prevent[ing] remote communications that may be used to defeat the location verification checks described in Nguyen” as part of its gaming authorization process. Pet. 75–76 (citing Ex. 1010 ¶ 79); Ex. 1003 ¶¶ 245–248. We further determine this could have been accomplished with a reasonable expectation of success, based on Mr. Williams’s testimony in this regard, which we find persuasive. *See* Pet. 76–77; Ex. 1003 ¶ 249.

Patent Owner’s opposition is not persuasive. Patent Owner asserts Wun does not “cure any of the deficiencies of Petitioner’s proposed combination of Nguyen and Lewin” cited by Patent Owner in opposition to Petitioner’s first ground, so those deficiencies carry forward here to this ground. PO Resp. 35–36. However, as discussed in Section VII.A above, we determine Petitioner’s first ground is supported by a preponderance of the evidence, including the specific aspects challenged by Patent Owner. Thus, there are no deficiencies that carry forward from the first ground to this ground.

We conclude a preponderance of the evidence establishes claim 18 is unpatentable as having been obvious over Nguyen, Lewin, and Wun.

F. Obviousness over Nguyen, Lewin, and Cockerille

Petitioner asserts claim 19 of the '231 patent would have been obvious over Nguyen, Lewin, and Cockerille. Pet. 6, 14, 77–83. Patent Owner opposes. PO Resp. 35–36. We conclude a preponderance of the evidence supports Petitioner's assertion. We begin our analysis with a brief summary of Cockerille, then we address the parties' contentions as to obviousness.

1. Cockerille Disclosure

Cockerille discloses a data pattern verification technique for use in a gaming machine environment, to detect anomalies in gaming data. Ex. 1008, codes (54) & (57), ¶ 2. For example, “a game may be generated . . . on a host computer and may be displayed on a remote terminal or a remote gaming device” such as a cell phone, in which event “gaming software and/or other code executed on” the remote device “may be periodically verified” by comparing the software “with certified copies of the software stored on one or more trusted memory sources.” *Id.* ¶ 68. This comparison may be implemented using a pattern comparator and a pattern authenticator. *Id.*

2. Claim 19

Claim 19 recites: “The apparatus of claim 1, in which determining that the device is authorized includes determining comparing a hashed value

based on at least one file stored on the device to an approved hashed value based on the at least one application.” Ex. 1001, 77:14–18.

Petitioner challenges parent claim 1 as having been obvious over Nguyen and Lewin, as discussed in Section VII.A above. *See* Pet. 16–36; Ex. 1003 ¶¶ 125–148. Petitioner then challenges claim 19 as having been obvious additionally over Cockerille, contending Cockerille discloses comparing hashed values to verify gaming software on a mobile device, which it would have been obvious to implement in the system of Nguyen and Lewin. Pet. 77–83; Ex. 1003 ¶¶ 250–262. For the following reasons, we agree.

We find Cockerille discloses comparing a hashed value of a file stored on a mobile device to an approved hashed value, to verify gaming software on the mobile device. Ex. 1008, Fig. 8, ¶¶ 30, 68–69, 74, 123–124, 133–134, 154; Pet. 78–80; Ex. 1003 ¶¶ 252–255. In particular, we find that the “patterns” disclosed by Cockerille correspond to the “hashed values” of claim 19. *See* Pet. 79–80; Ex. 1003 ¶ 254. We determine it would have been obvious to modify the device authentication system of Nguyen and Lewin to include Cockerille’s teaching of using hashed values to verify gaming software, in order to comply with jurisdictional requirements relating to the security and authentication of gaming machines. Pet. 80–82 (citing Ex. 1008 ¶¶ 5, 31, 66–67, 78); Ex. 1003 ¶¶ 256–260. We further determine this could have been accomplished with a reasonable expectation of success, based on Mr. Williams’s testimony in this regard, which we find persuasive. *See* Pet. 82–83; Ex. 1003 ¶ 261.

Patent Owner’s opposition is not persuasive. Patent Owner asserts Cockerille does not “cure any of the deficiencies of Petitioner’s proposed

combination of Nguyen and Lewin” cited by Patent Owner in opposition to Petitioner’s first ground, so those deficiencies carry forward here to this ground. PO Resp. 35–36. However, as discussed in Section VII.A above, we determine Petitioner’s first ground is supported by a preponderance of the evidence, including the specific aspects challenged by Patent Owner. Thus, there are no deficiencies that carry forward from the first ground to this ground.

We conclude a preponderance of the evidence establishes claim 19 is unpatentable as having been obvious over Nguyen, Lewin, and Cockerille.

G. Obviousness over Nguyen, Lewin, Morrison, Wun, and Cockerille

Petitioner asserts claim 20 of the ’231 patent would have been obvious over Nguyen, Lewin, Morrison, Wun, and Cockerille. Pet. 6, 84. Patent Owner opposes. PO Resp. 35–36. We conclude a preponderance of the evidence supports Petitioner’s assertion.

Claim 20 recites:

20. The apparatus of claim 1, in which determining that the device is authorized includes determining that one or more communication ports of the device are disabled, comparing a hashed value based on at least one file stored on the device to an approved hashed value based on the at least one application, and determining that a mobile telephone number of the device has been signed up for the gaming service.

Ex. 1001, 77:19–25. Thus, we agree with Petitioner’s characterization of claim 20 as “recit[ing] the limitations of [c]laims 18, 19, and 4 in combination.” Pet. 84. Further, for reasons provided above in the context of those other claims, we conclude claim 20 would have been obvious over

Nguyen, Lewin, Morrison, Wun, and Cockerille. *See* Pet. 84; Ex. 1003 ¶¶ 262–264.

Patent Owner’s opposition is not persuasive. Patent Owner asserts Morrison, Wun, and Cockerille do not “cure any of the deficiencies of Petitioner’s proposed combination of Nguyen and Lewin” cited by Patent Owner in opposition to Petitioner’s first ground, so those deficiencies carry forward here to this ground. PO Resp. 35–36. However, as discussed in Section VII.A above, we determine Petitioner’s first ground is supported by a preponderance of the evidence, including the specific aspects challenged by Patent Owner. Thus, there are no deficiencies that carry forward from the first ground to this ground.

We conclude a preponderance of the evidence establishes claim 20 is unpatentable as having been obvious over Nguyen, Lewin, Morrison, Wun, and Cockerille.

VIII. SUMMARY OF CONCLUSIONS

In summary, we determine a preponderance of the evidence establishes claims 1–23 of the ’231 patent are unpatentable, as shown in the following table:⁷

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).

Claim(s)	35 U.S.C. §	References	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–5, 7, 21–23	103(a)	Nguyen, Lewin	1–5, 7, 21–23	
1–11, 13, 15–17, 21–23	103(a)	Nguyen, Lewin, Verteuil	6, 8–11, 13, 15–17	1–5, 7, 21–23
12, 14	103(a)	Nguyen, Lewin, Verteuil, Raith	12, 14	
4, 18	103(a)	Nguyen, Lewin, Morrison	4, 18	
18	103(a)	Nguyen, Lewin, Wun	18	
19	103(a)	Nguyen, Lewin, Cockerille	19	
20	103(a)	Nguyen, Lewin, Morrison, Wun, Cockerille	20	
Overall Outcome			1–23	

IX. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner’s motion to exclude evidence is denied;

ORDERED that claims 1–23 of the ’231 patent have been proven by a preponderance of the evidence to be unpatentable; and

FURTHER ORDERED that, because this is a final written decision, parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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PETITIONER:

G. Hopkins Guy III
Jamie R. Lynn
Clarke W. Stavinoha
Michael E. Knierim
Andrew Wilson
BAKER BOTTS L.L.P.
hop.guy@bakerbotts.com
jamie.lynn@bakerbotts.com
clarke.stavinoha@bakerbotts.com
michael.knierim@bakerbotts.com
andrew.wilson@bakerbotts.com

PATENT OWNER:

Timothy P. McAnulty
Robert F. Shaffer (*pro hac vice*)
Anthony J. Berlenbach
Courtney A. Bolin
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP
timothy.mcanulty@finnegan.com
robert.shaffer@finnegan.com
anthony.berlenbach@finnegan.com
courtney.bolin@finnegan.com