

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SUPERCELL OY,
Petitioner,

v.

GREE, INC.,
Patent Owner.

PGR2018-00061
Patent 9,700,793 B2

Before LYNNE H. BROWNE, HYUN J. JUNG, and
CARL M. DEFRANCO, *Administrative Patent Judges*.

JUNG, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining No Challenged Claims Unpatentable
35 U.S.C. § 328(a)

I. INTRODUCTION

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 328(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–7 and 9–20 of U.S. Patent No. 9,700,793 B2 are unpatentable.

A. *Procedural History*

Supercell Oy (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting institution of a post-grant review of claims 1–20 of U.S. Patent No. 9,700,793 B2 (Ex. 1001, “the ’793 patent”). GREE, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 6. Patent Owner also filed a disclaimer pursuant to 37 C.F.R. § 1.321(a) for claim 8. Ex. 2003. Pursuant to 35 U.S.C. § 324, we instituted a post-grant review. Paper 7 (“Dec. to Inst.”). In particular, we instituted review of all challenged claims that were not disclaimed, claims 1–7 and 9–20, on all presented challenges. Dec. to Inst. 2, 17, 22; *see also* 37 C.F.R. § 42.207(e) (stating that “[n]o post-grant review will be instituted based on disclaimed claims.”).

After institution, Patent Owner filed a Response (Paper 12, “PO Resp.”), to which Petitioner filed a Reply (Paper 19, “Pet. Reply”). Patent Owner filed a Sur-Reply (Paper 20, “PO Sur-Reply”). An oral hearing in this proceeding was held on July 10, 2019; a transcript of the hearing is included in the record (Paper 26, “Tr.”).

B. *Related Proceedings*

The parties indicate that there are no related matters. Pet. 1; Paper 5, 2.

C. Grounds of Unpatentability at Issue and Evidence Relied Upon

We instituted review of claims 1–7 and 9–20 of the ’793 patent on the following grounds:

Claims Challenged	Statutory Basis	Reference(s)
1–7 and 9–20	§ 101	
1–7 and 9–20	§ 112(a)	
1–7 and 9–20	§ 112(b)	

Dec. to Inst. 17, 22.

Petitioner does not provide any expert testimony in support of its challenges and does not propose a level of ordinary skill. Patent Owner proffers a declaration of David Crane. Ex. 2004. A deposition transcript for Mr. Crane was also filed. Ex. 1009.

D. The ’793 Patent (Ex. 1001)

The ’793 patent issued July 11, 2017, from an application filed November 21, 2014, and claims priority to a foreign application filed February 26, 2014. Ex. 1001, codes (22), (30), (45); *see* Pet. 9 (stating that “the effective date of the challenged claims is no earlier than February 26, 2014”).

The ’793 patent “relates to a recording medium storing a game program, a game processing method, and an information processing apparatus.” Ex. 1001, 1:8–10. According to the ’793 patent, it “reduce[s] the influence of a communication state or performance of hardware.” *Id.* at 5:1–2. Figure 1 of the ’793 patent is reproduced below.

FIG. 1

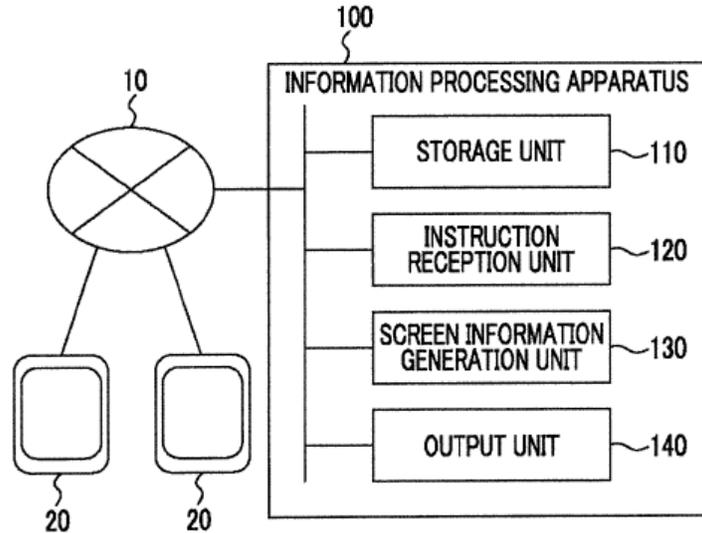


Figure 1 shows a schematic block diagram of an information processing apparatus. *Id.* at 5:9–10. Information processing apparatus 100 processes a game and includes storage unit 110, instruction receiving unit 120, screen information generation unit 130, and output unit 140. *Id.* at 7:12–17. Information processing unit 100 can connect to user terminals 20 through network 10. *Id.* at 7:17–20. Figures 2A and 2B of the '793 patent are reproduced below.

FIG. 2A

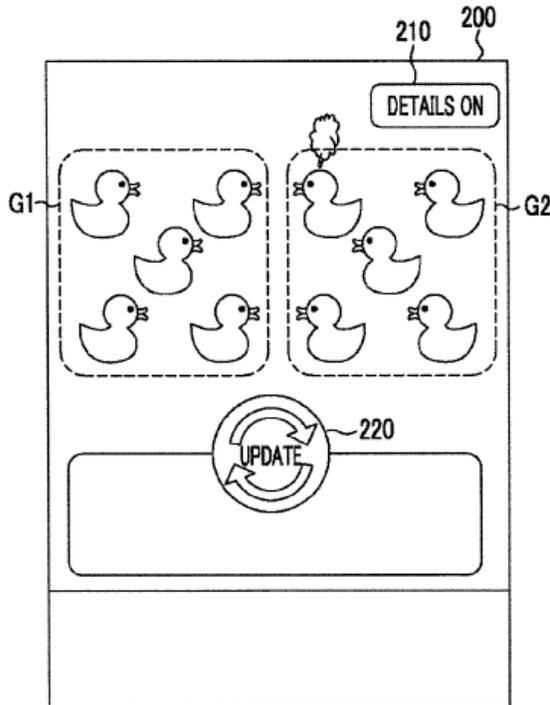
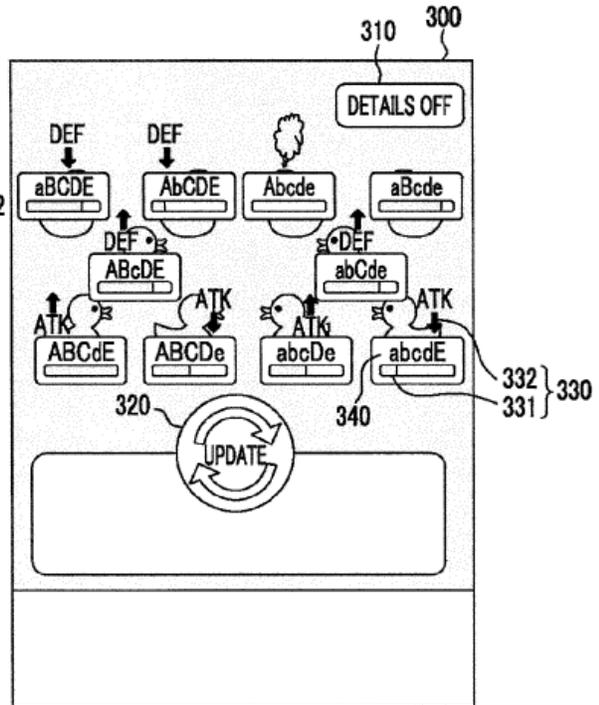


FIG. 2B



First game screen 200 can display two groups of characters engaged in a battle. *Id.* at 8:13–15, Fig. 2A. Second game screen 300 can display state information 330, such as vitality, defensive power, offensive power, and the like of each character in the first game screen. *Id.* at 7:29–32, 8:19–24, Fig. 2B. Both screens 200, 300 have update buttons 220, 320 that update state information 330. *Id.* at 8:33–36.

Information processing apparatus 100 generates information related to second game screen 300 based on the latest state information 330 when instruction receiving unit 120 “receives a first instruction which is an instruction to update the state information,” for example, by pressing update button 220 or 320. *Id.* at 8:37–43. Generating such information can be performed “when there is a margin in the processing of the game” so as “to

allow the game to progress without being affected by a communication state or hardware performance.” *Id.* at 8:46–51.

Both screens 200, 300 also have switching buttons 210, 310 to switch between first and second game screens 200, 300. *Id.* at 8:33–36. Screen information generation unit 130 can generate second game screen 300 as a screen having transparency, and output unit 140 can provide first and second game screens 200, 300 to allow switching between game screens 200, 300. *Id.* at 8:56–64.

E. Illustrative Claim

The ’793 patent has 20 claims, all of which Petitioner challenges. Claim 8 has been disclaimed. Ex. 2003. Claims 1, 11, and 17 are independent, and claim 1 is reproduced below.

1. A non-transitory recording medium for storing a game program which processes progress of a game, the game program when executed on a computer causes the computer to execute instructions for:
 - storing basic information of game contents and state information changing according to the progress of the game;
 - receiving an instruction from a user;
 - generating information relating to a game screen based on a received instruction; and
 - outputting information relating to the generated game screen to a user terminal at a predetermined time,wherein the screen information relates to a first game screen that displays game contents and information relating to a second game screen that displays state information of the game contents, and
 - the second game screen includes latest state information at a time when receiving a first instruction which is an instruction to update the state information.

Ex. 1001, 13:49–67.

II. ELIGIBILITY FOR POST-GRANT REVIEW

The post-grant review provisions of the Leahy-Smith America Invents Act (“AIA”)¹ apply only to patents subject to the first inventor to file provisions of the AIA. AIA § 6(f)(2)(A). Specifically, the first inventor to file provisions apply to any application for patent, and to any patent issuing thereon, that contains or contained at any time a claim to a claimed invention that has an effective filing date on or after March 16, 2013. AIA § 3(n)(1). Furthermore, “[a] petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent or of the issuance of a reissue patent (as the case may be).” 35 U.S.C. § 321(c); *see also* 37 C.F.R. § 42.202(a) (setting forth the same).

Petitioner contends that the “effective filing date of the challenged claims is no earlier than February 26, 2014” (Pet. 9), which is after March 16, 2013, and that “the present petition is being filed on or before the date that is nine months after the date of the grant of the patent, or April 11, 2018” (*id.* at 2). The ’793 patent issued on July 11, 2017 (Ex. 1001, code (45)), and the instant Petition was filed on April 10, 2018 (*see also* Paper 3, 1 (according the Petition a filing date of April 10, 2018)), which is within nine months of the date of the grant of the ’793 patent. Patent Owner does not present any argument or evidence disputing the eligibility of the ’793 patent for post-grant review. *See generally* PO Resp.; PO Sur-Reply.

On the full record before us, we determine that the ’793 patent is eligible for post-grant review.

¹ Pub. L. No. 112-29, 125 Stat. 284 (2011).

III. ANALYSIS

To prevail in its challenges, Petitioner must prove unpatentability by a preponderance of the evidence. 35 U.S.C. § 326(e); 37 C.F.R. § 42.1(d).

A. *Level of Ordinary Skill*

Patent Owner contends that a person of ordinary skill in the art “would possess at least an associate degree in the field of computer science (or a related academic field) and at least two additional years of practical (*e.g.*, work) experience in the field of video game programming and development.” PO Resp. 15 (citing Ex. 2004 ¶ 27). Patent Owner alternatively contends that, if the person of ordinary skill in the art did not have a formal degree, then such a person “would have at least four years of practical (*e.g.*, work) experience in the field of video game programming and development, or an equivalent field of study” and “would have training or familiarity with computer processing technology, namely systems for processing the progress of a video game, including the generation of game screens, and the tracking and displaying of in-game player status information.” *Id.* at 15–16 (citing Ex. 2004 ¶ 27). Petitioner does not present any arguments regarding level of ordinary skill. *See generally* Pet.; Pet. Reply.

We find Patent Owner’s proposed level of ordinary skill credible based on the Specification and apply that level of skill to our analysis of the parties’ disputes. We, thus, adopt Patent Owner’s unchallenged, asserted level of ordinary skill quoted above.

B. *Claim Interpretation*

In the present post-grant review, claim terms in the ’793 patent, which is an unexpired patent, are interpreted according to their broadest reasonable

construction in light of the Specification of the '793 patent. 37 C.F.R. § 42.200(b); *Cuozzo Speed Techs. LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard).²

1. Wherein Clauses of Claims 1, 11, and 17

Claim 1 recites “wherein the screen information relates to a first game screen that displays game contents and information relating to a second game screen that displays state information of the game contents, and the second game screen includes latest state information at a time when receiving a first instruction which is an instruction to update the state information.” Ex. 1001, 13:61–67. Independent claims 11 and 17 recite similar wherein clauses. *See* Ex. 1001, 15:9–17, 16:19–27.

Petitioner asserts that the wherein clause of each independent claim “attempts to *describe* ‘the screen information’ that is output” but “does not provide any meaning or purpose to the outputting step.” Pet. 17. Petitioner, thus, asserts that “the wherein clause does not limit the claims.” *Id.* at 17–18 (citing *Griffin v. Bertina*, 285 F.3d 1029, 1034 (Fed. Cir. 2002)).

Petitioner also contends that the wherein clause “attempts to describe . . . the second screen—as ‘includ[ing] latest state information at a time when receiving a first instruction which is an instruction to update the state

² On October 11, 2018, the Office revised its rules to harmonize the Board’s claim construction standard with that used in civil actions under 35 U.S.C. § 282(b) in federal district court. Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018). This rule change does not apply here. *See* Paper 3, 1 (according filing date of April 10, 2018 to the Petition).

information” and that the received instruction need not be the “instruction to update state information.” Pet. 19 (citing Ex. 1001, 7:54–58). Based on these contentions, Petitioner argues that “the instruction being a state update instruction is a condition precedent to this portion of the wherein clause, since ‘the latest state information’ is only included in the second screen ‘when receiving a first instruction which is an instruction to update the state information.’” *Id.* Petitioner also argues that, “[w]hen the received instruction is not a state update instruction, the condition is not met and the second screen is not recited as including the latest state information.” *Id.*

Petitioner, thus, contends that, “[s]ince the wherein clause does not limit the claims, the broadest reasonable interpretation . . . is outputting information relating to any single game screen to a user terminal at a predetermined time.” *Id.* at 20. Petitioner alternatively contends that, if the wherein clause is limiting, “the outputting step recites only outputting information for a single screen, so the broadest reasonable interpretation . . . would still be outputting information relating to any single game screen to a user terminal at a predetermined time, not limited to the single game screen being the first or second screen.” *Id.* Petitioner further contends that, if the broadest reasonable interpretation is that the second screen is the screen, the screen would only include “‘the latest state information’ *only if* the received instruction is an instruction to update the state information.” *Id.*

Patent Owner responds that Petitioner’s proposed interpretations are overly broad and that the Specification does not support those interpretations. PO Resp. 17–18. Patent Owner also responds that one of ordinary skill in the art “would understand that the ‘wherein’ clause does not describe the ‘outputting’ step as Petitioner contends” but, instead, “describes

the screen information that is the result of the generating step (*i.e.*, the step that precedes the outputting step).” *Id.* at 25 (citing Pet. 17; Ex. 2004 ¶ 46). Patent Owner, thus, contends that Petitioner misreads the claims. *Id.* at 25–26 (citing Ex. 1001, 13:57–67; Ex. 2004 ¶ 48).

Patent Owner also argues that the “‘wherein’ clause includes features that describe recited elements of the claimed methods, and as such, cannot be ignored.” *Id.* at 27 (citing *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329 (Fed. Cir. 2005); Pet. 18; Ex. 1001, 13:61–67). Patent Owner contends that, “for example, the ‘wherein’ clause recites characteristics and timing of the updating of the screen information” and reading out the “wherein” clause would be contrary to the ’793 patent’s Specification. *Id.* at 27–28 (citing Ex. 2004 ¶ 49). Patent Owner also contends that, under *Griffin*, 285 F.3d at 1033, the “wherein” clause is limiting because it further clarifies “generating information relating to a game screen based on a received instruction.” *Id.* at 28. Patent Owner further contends that prosecution history of the ’793 patent shows that the “wherein” clause was “material to the patentability of the claims.” *Id.* at 28–29 (citing Ex. 1002, 9–41).

Petitioner replies that Patent Owner’s proposed interpretation is “nonsensical.” Pet. Reply 5 (addressing PO Resp. 25–26). Petitioner also argues that *Hoffer* supports Petitioner’s proposed interpretation because the “wherein clause expresses the *intended result* of [the outputting] step, *i.e.*, display of the first and second screens.” *Id.* at 6. According to Petitioner, Patent Owner admits that “the wherein clause ‘simply expresses the *intended result* of a process step positively recited.’” *Id.* (quoting PO Resp. 25). Petitioner further argues that the claim is “ambiguous” because it is unclear to what “the screen information” refers. *Id.* at 5.

Patent Owner contends that one of ordinary skill in the art would have understood that “the ‘wherein’ clause describes the screen information that is the result of the generating step (i.e., the step that precedes the outputting step)” with reference to the Specification and claims 11 and 17. PO Sur-Reply 5 (citing Ex. 1001, 4:1–7, 4:37–45, 6:47–55, 14:66–15:17, 16:12–26). Patent Owner also contends that “the ‘wherein’ clause gives crucial meaning to, and recites characteristics and timing of the updating of the screen information,” “identifies the specific screen information generated based on a received instruction,” and “further delineates that the second game screen ‘includes latest state information at a time when receiving a first instruction which is an instruction to update the state information.’” *Id.* (quoting Ex. 1001, 13:61–67). According to Patent Owner, “[t]hese features capture the technological improvement described in the ’793 [S]pecification” and “[i]gnoring these features would subvert the purpose of the claimed invention and would therefore ‘be contrary to the fundamental invention.’” *Id.* at 5–6 (quoting *Hoffer*, 405 F.3d at 1330). Patent Owner asserts that “read[ing] out the ‘wherein’ clause is nothing more than an attempt to evade proper § 101 and § 112 analysis.” *Id.* at 6.

We agree with Patent Owner that the wherein clauses of independent claims 1, 11, and 17 are limiting. Turning to the language of the claims, claim 1 recites “generating information relating to a game screen based on a received instruction [(‘the generating step’)]; and outputting information relating to the generated game screen to a user terminal at a predetermined time [(‘the outputting step’)].” Ex. 1001, 13:57–60. Claim 1’s wherein clause recites, *inter alia*, that “the second game screen includes latest state information at a time when receiving a first instruction which is an

instruction to update the state information.” Because of the logical link between the “received instruction” in the generating step and the “when receiving a first instruction” in the wherein clause, we determine that the wherein clause must relate to the generating step, not the outputting step, as asserted by Petitioner.

Claim 11 also recites “a screen information generation step in which a screen information generator . . . generates information relating to a game screen based on the instruction received” and its wherein clause expressly states “in the screen information generation step.” Ex. 1001, 14:66–15:2, 15:9. Similarly, claim 17 recites “a screen information generator that generates information relating to a game screen based on an instruction received” and expressly states “wherein the screen information generator generates information.” *Id.* at 16:13–15, 16:19. We, thus, determine that the claims support Patent Owner’s contention that the wherein clauses refer to recitations regarding generating information relating to a game screen based on received instruction.

Turning to the Specification, we find that it describes the claimed invention as “capable of reducing the influence of a communication state or performance of hardware *by generating a game screen with information to be displayed on the game screen as the latest information at the timing when an instruction to update is received.*” Ex. 1001, 1:51–55 (emphasis added); *see also* Ex. 2004 ¶ 49 (testifying as to why the Specification describes a technological improvement). The wherein clauses of the independent claims reiterate this part of the Specification. *See* Ex. 1001, 13:61–67, 15:9–17, 16:19–27. We, thus, find that the Specification supports our determination

that the wherein clauses refer to recitations regarding generating information relating to a game screen based on received instruction and are limiting.

Turning to the prosecution history of the '793 patent, we find that the wherein clauses were material to patentability. We find that the claims were allowed in response to a communication dated December 13, 2016.

Ex. 1002, 13. This communication was a Response from Applicant (*id.* at 26–35), in which Applicant argued that the then-pending claims improved computer technology by “reduc[ing] the influence of a communication state or performance of hardware” (*id.* at 33). Applicant contended that the improvement was “embodied by ‘generating information relating to a game screen based on a received instruction . . . wherein the screen information relates to a first game screen . . . and information relating to a second game screen . . . ’ as recited by Claim 1” and that “[i]ndependent Claims 11 and 17 recite elements that function in a similar manner.” *Id.* at 8. Based on these portions, we find that recitations related to the wherein clauses were, at least in part, what led to the subsequent allowance after the arguments were presented. We, thus, find that the prosecution history of the '793 patent supports a determination that the wherein clauses are limiting.

Turning next to declarant testimony, Patent Owner presents testimony regarding how one of ordinary skill in the art would understand the wherein clauses of the independent claims. Ex. 2004 ¶¶ 46–49. We agree with that testimony because it finds support in the express language of the claims. Declarant testimony also supports our determination, based on the claims, the Specification, and prosecution history, that the wherein clauses refer to the generating step and are limiting.

In summary, based on the language of the claims, the Specification, the prosecution history, and declarant testimony, we determine that the wherein clauses of the independent claims refer to the generating step and are limiting.

We do not agree with Petitioner's assertion that the independent claims recite a condition precedent. Petitioner limits its analysis to the receiving instruction limitations and does not analyze those same limitations in view of the respective wherein clauses. *See* Pet. 19. Petitioner, thus, presents insufficient evidence that the independent claims recite a condition precedent. *See id.*

Also, regarding Petitioner's assertion that, if the wherein clauses are limiting, the outputting step recites only outputting information for a single screen, Petitioner does not persuade us by a preponderance of the evidence that the wherein clauses refer to the outputting step, for the reasons discussed above. Even if Petitioner's arguments were applied to the step of "generating information relating to a game screen based on a received instruction," Petitioner's arguments would not be persuasive because Petitioner argues that information relating to a game screen and the game screen itself are different. *See* Pet. Reply 22–23. Also, the express language of the claims is broad enough to cover generating information relating to, at least, one game screen.

Moreover, we determine that the claims expressly require that the instruction be an instruction to update. *See* Ex. 1001, 13:66–67 ("when receiving a first instruction which is an instruction to update the state information"), 15:15–17 ("when a first instruction which is an instruction to update the state information is received in the instruction receiving step"),

16:25–27 (“when the instruction receiving device receives a first instruction, which is an instruction to update the state information”). Even if a previously recited limitation regarding receiving instruction from a user were interpreted to be any instruction from the user, the wherein clauses of the independent claims require that the instruction be “an instruction to update the state information.” In other words, we determine that the previously recited limitations regarding receiving instruction is further limited by the wherein clauses of the independent claims to be an instruction to update the state information.³

2. *Other Claims Terms*

The parties dispute the meaning of “receiving an instruction,” as recited by claim 1, and “receives an instruction,” as recited by claims 11 and 17. Pet. 15–16; PO Resp. 17–21; Pet. Reply 2–3; PO Sur-Reply 2–3. The parties also dispute the meaning of “information relating to a game screen.”

³ Petitioner also argues that, “even if the wherein clause is found to limit the claim,” the wherein clause “is unclear which is ‘the generated game screen’ for which information is output in this step, since the term lacks antecedent basis” and “unclear how an outputting step that describes only outputting information about *a game screen* corresponds to the *two different screens* described in the wherein clause.” Pet. 18–19; *see also* Pet. Reply 5 (arguing that “the screen information” has no antecedent basis and could refer to either “information relating to a game screen” or “information relating to the generated game screen”). For claim 11, which Petitioner notes “recites a slightly different step,” Petitioner asserts that the phrase “the game screen generated” has no antecedent basis. *Id.* at 20. Patent Owner replies that Petitioner misreads the claims and “invites ambiguity into the claim language.” PO Sur-Reply 4 (quoting from Pet. Reply 4, 5). Patent Owner also argues that there is no evidence of how one of ordinary skill in the art would have understood the clause in the context of the claims and the intrinsic record. *Id.* at 4–5. We address these arguments below in our analysis of the challenge based on § 112(b).

Pet. 16; PO Resp. 17–18, 21–24; Pet. Reply 3–4; PO Sur-Reply 3–4.

Petitioner also proposes an interpretation for “non-communication state” of claim 8, which has been disclaimed. Pet. 21–23; Ex. 2003.

To resolve the parties’ dispute, we determine that an express interpretation for any of these terms or any other claim term is not necessary. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (construing explicitly only those claim terms in controversy and only to the extent necessary to resolve the controversy).

C. Challenge Under 35 U.S.C. § 101

The U.S. Supreme Court has long interpreted 35 U.S.C. § 101 to exclude from patenting “[l]aws of nature, natural phenomena, and abstract ideas.” *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014). In determining whether a claim falls within the excluded category of abstract ideas, we are guided by the U.S. Supreme Court’s two-step framework in *Alice* and *Mayo*. *Id.* at 217 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 77–78 (2012)). In accordance with that framework, we first determine whether the claim is “directed to” a patent-ineligible abstract idea. *Id.* (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

If the claim is “directed to” a patent-ineligible abstract idea, we turn to the second step of the *Alice* and *Mayo* framework and consider the elements of the claim, both individually and as an ordered combination, to determine whether the additional elements transform the nature of the claim into a

patent-eligible application of the abstract idea. *Alice*, 573 U.S. at 217. This second step involves a search for an “inventive concept”—an element or combination of elements sufficient to ensure that the claim amounts to “significantly more” than the abstract idea itself. *Id.*

The Office published guidance on subject matter eligibility. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”). “Step 1 of the USPTO’s eligibility analysis entails considering whether the claimed subject matter falls within the four statutory categories of patentable subject matter identified by 35 U.S.C. 101: Process, machine, manufacture, or composition of matter.” Guidance, 84 Fed. Reg. at 53–54. “Step 2A of the 2019 Revised Patent Subject Matter Eligibility Guidance is a two-prong inquiry” and “[i]n Prong One, examiners should evaluate whether the claim recites a judicial exception, i.e., an abstract idea, a law of nature, or a natural phenomenon.” *Id.* at 54. “To determine whether a claim recites an abstract idea in Prong One, examiners are now to: (a) Identify the specific limitation(s) in the claim under examination (individually or in combination) that the examiner believes recites an abstract idea; and (b) determine whether the identified limitation(s) falls within the subject matter groupings of abstract ideas enumerated in Section I of the 2019 Revised Patent Subject Matter Eligibility Guidance,” *i.e.*, mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes. *Id.*

“In Prong Two, examiners should evaluate whether the claim as a whole integrates the recited judicial exception into a practical application of the exception . . . by: (a) Identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and

(b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application, using one or more of the considerations.” *Id.* at 54–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

- (1) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, convention” in the field; or
- (2) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

Id. at 56–57.

1. Whether the Claims Are Directed to an Abstract Idea

The Guidance was published January 7, 2019, after the Petition was filed but before Patent Owner filed its Response. *See* Paper 3, 1 (according the Petition a filing date of April 10, 2018); Paper 8, 8 (setting January 25, 2019 as the due date for Patent Owner’s Response); PO Resp. 30 (arguing that the “USPTO’s newly-released 2019 Revised Patent Subject Matter Eligibility Guidance . . . confirms the challenged claims’ patent eligibility under *Alice* step one”); PO Sur-Reply 7 (stating that “[o]n January 7, 2019, the USPTO issued 2019 Revised Patent Subject Matter Eligibility Guidance . . . which provides clarifying guidelines for evaluating a claim under the first step of the *Alice/Mayo* test”). The parties each had an opportunity to address, and did address as summarized below, the procedure for analyzing subject matter eligibility under the Guidance. *See, e.g.*, PO Resp. 30–34, 38–39; Pet. Reply 9–10; PO Sur-Reply 7–17.

Applying the analysis of the Guidance, Petitioner does not persuade us by a preponderance of the evidence that the claims are directed to patent ineligible subject matter. In particular, we are not persuaded that Petitioner carries its burden of showing that the additional elements of independent claims 1, 11, and 17 fail to integrate the judicial exception into a practical application.

a. Assertions in the Petition

Petitioner argues that the “claims of the ’793 patent are directed to the [patent ineligible subject matter] of generating and outputting information relating to game screen(s) in response to an instruction received from a user.” Pet. 34; *see also id.* at 10 (contending that each of the independent claims “is directed to the same concept of receiving an instruction from a user and generating and outputting for display information relating to a game screen and information relating state information screen in response to the user instruction”). Petitioner also argues that the claims recite “a sequence of abstract steps” and “fail to recite any non-abstract way of performing those steps.” *Id.* at 34; *see also id.* at 11 (arguing that the “independent claims recite nearly identical steps”). Petitioner further argues that the claims “do not recite any specific improvement in video game technology or programming,” and instead, “recite functions without any preference as to how those functions are achieved.” *Id.* at 38 (citing *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348 (Fed. Cir. 2015)).

According to Petitioner, claims similar to the ’793 patent have been rejected as abstract. *Id.* at 35 (citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1351 (Fed. Cir. 2016); *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 612–613 (Fed. Cir. 2016); *Internet Patents*, 790 F.3d at

1348). Petitioner compares the claims to those in *Two-Way Media Ltd. v. Comcast Cable Commc'n, LLC*, 874 F.3d 1329, 1337–1338 (Fed. Cir. 2017) and *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258–1259 (Fed. Cir. 2016). *Id.* at 37. Petitioner also contrasts the claims of the '793 patent to those discussed in *McRO Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314–1316 (Fed. Cir. 2016) (*id.* at 35–37) and *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016). *Id.* at 35–38 (also citing *Elec. Power Grp.*, 830 F.3d at 1355).

b. Assertions in the Patent Owner's Response

Patent Owner responds that the challenged claims are not directed to patent ineligible subject matter because they are not directed to a mathematical concept, a certain method of organizing human activity, or a mental process. PO Resp. 31–32. In particular, Patent Owner argues that Petitioner's alleged patent ineligible subject matter “broadly oversimplifies the invention.” *Id.* at 33.

Patent Owner also argues that the challenged claims are necessarily rooted in computer technology because the '793 patent identifies “technical problems that exist only in the realm of computer-related technology” and the challenged claims are “directed to an improvement in video game processing” that addresses lag in rendering or loading game data. *Id.* at 34–37 (citing Ex. 1001, 1:10–14, 1:45–47; Ex. 2004 ¶¶ 53, 59, 61, 66–70, 74). Patent Owner further argues that the challenged claims recite a specific manner of achieving the improvement. *Id.* at 37–42 (citing *Enfish*, 822 F.3d at 1335; Pet. 34–35; Ex. 1001, 2:67–3:3; Ex. 2004 ¶¶ 69, 70, 72, 76–80; Ex. 2007, 6). Patent Owner additionally distinguishes the challenged claims

from those at issue in *Affinity Labs* and *Two-Way Media*. *Id.* at 42–44 (citing Ex. 2004 ¶ 75).

Regarding *McRO*, Patent Owner contends that Petitioner relies on a claim construction that improperly reads out the “wherein” clauses of the challenged claims and oversimplifies the claims. *Id.* at 44–47 (citing *McRO*, 837 F.3d at 1313–14; Pet. 36–37). Patent Owner also contends that the claims must be read as a whole and Petitioner intentionally omits the “wherein” clauses from its analysis. *Id.* at 47–48 (citing *Data Engine Tech. LLC v. Google LLC*, 906 F.3d 999, 1011 (Fed. Cir. 2018); Pet. 37–38; Ex. 1001, 15:9–17).

Patent Owner additionally argues that the challenged claims are “limited to rules with specific characteristics” and “do not prevent other screen generation methods from being practiced,” contrary to Petitioner’s unsupported attorney arguments. *Id.* at 48–49 (citing Pet. 37). Patent Owner contends that, as affirmed in *Data Engine*, “Petitioner’s attempt to remove all the features from the claims and conjure up an alleged patent ineligible concept underlying the claim is inappropriate.” *Id.* at 49–50.

c. Assertions in Petitioner’s Reply

Petitioner replies that Patent Owner’s articulation of the challenged claims “is divorced from claim language” and “acknowledges that ‘generating’ is not positively recited.” Pet. Reply 7–8 (citing PO Resp. 47, 56; Ex. 1009, 36:17–37:21, 39:15–20). Petitioner also argues that the challenged claims recite “only generalized steps performed on generic hardware,” and that ordinary skilled artisans could have generated information relating to a game screen before reading the Specification. *Id.* at 8–9 (citing Ex. 1009, 9:5–18, 18:12–29:16, 56:15–57:1, 83:1–87:1).

Petitioner further argues that Patent Owner fails to distinguish the claims from *Affinity Labs* and *Two-Way Media*. *Id.* at 9.

According to Petitioner, Prong Two of the Guidance “considers only elements *additional to* what a claim is ‘directed to.’” *Id.* at 9–10. Petitioner contends that Patent Owner argues without support that the ’793 patent improves computer functioning and fails to analogize its claims to *Core Wireless*, *Enfish*, *McRO*, and *Data Engine* because the claims of the ’793 patent do not improve computer functionality, recite specific rules, or recite how to implement a particular feature. *Id.* at 10–12 (citing PO Resp. 32–50).

d. Assertions in Patent Owner’s Sur-Reply

Patent Owner replies that Petitioner’s flawed claim interpretation affects Petitioner’s patent eligibility analysis. PO Sur-Reply 6. Patent Owner argues that, under the Guidance, the challenged claims are not directed to patent ineligible subject matter under Prong One because Petitioner oversimplifies the claims and “fails to articulate a subject matter group of abstract idea to which the challenged claims allegedly fall.” *Id.* at 6–10 (citing Pet. Reply 7–12; Ex. 1001, 13:49–67; Ex. 2007, 1). According to Patent Owner, the “claims recite a specific manner of video game processing that reduces the influence of the communication state or the performance of hardware,” and Petitioner’s argument improperly reads out the wherein clause. *Id.* at 10–12 (citing Reply 8; Ex. 1002, 33; Ex. 1009, 88:22–91:8; Ex. 2004 ¶¶ 69–75, 79–80, 84).

For Prong Two, Patent Owner argues that Petitioner presents mere attorney argument and Petitioner’s contention “is directly refuted by the claim language itself.” *Id.* at 12–14 (citing Pet. Reply 11), 17 (citing Pet. Reply 19–20). Patent Owner contends that the ’793 patent addresses a

problem in computer-related technology. *Id.* at 14–16 (citing Ex. 1001, 2:67–3:3; Ex. 2004 ¶¶ 59, 67–70, 72, 79, 80).

e. Analysis

Decisive to our analysis are the parties’ arguments regarding whether the additional elements of the challenged claims integrate the judicial exception into a practical application under Prong Two of the Guidance. Thus, regardless of whether Petitioner properly applied the Guidance for Prong One or whether Petitioner has shown that the challenged claims are directed to a judicial exception, including certain groupings of abstract ideas, we determine for the reasons below that Petitioner does not carry its burden of showing that the claims are directed to patent ineligible subject matter under Prong Two of the Guidance. For our analysis below, we apply Petitioner’s asserted patent ineligible subject matter of generating and outputting information relating to game screen(s) in response to an instruction received from a user to analyze the additional limitations beyond that patent ineligible subject matter. *See* Pet. 34.

We agree with Patent Owner that Petitioner relies on a claim construction that improperly reads out the “wherein” clauses of the challenged claims. PO Resp. 44–48 (citing Pet. 36–37); *see also* Pet. 17–18, 20 (asserting that the wherein clauses of the independent claims do not limit the claims). As discussed above, our review of the claims themselves, the Specification, prosecution history, and declarant testimony indicates that the wherein clauses are limiting.

Petitioner asserts that the claims are directed to “generating and outputting information relating to game screen(s) in response to an instruction received from a user.” Pet. 34. But Petitioner’s asserted patent

ineligible subject matter does not take into account the wherein clauses of the independent claims. *See id.* In particular, the asserted patent ineligible subject matter does not address a first game screen that displays game contents, a second game screen that displays state information of the game contents, and a second game screen that includes latest state information at a time when receiving an instruction to update the state information.

We find that the wherein clauses would be additional elements to the asserted patent ineligible subject matter. Petitioner does not address the wherein clauses in its application of the Guidance and does not persuade us that the wherein clauses fail to integrate the asserted judicial exception into a practical application under Prong Two of the Guidance. *See* Pet. Reply 9–10.

For the reasons above, based on the full record before us, Petitioner does not persuade us that claims 1–7 and 9–20 of the ’793 patent relate to patent ineligible subject matter under 35 U.S.C. § 101.

D. Challenge Under 35 U.S.C. § 112(a)

The parties’ dispute regarding written description support concerns “generating information relating to a game screen based on a received instruction” and “storing basic information of game contents and state information changing according to the progress of the game.” Pet. 51–57; PO Resp. 67–71; Pet. Reply 21–22; PO Sur-Reply 20–22.

1. Principles of Law

To satisfy the written description requirement under 35 U.S.C. § 112(a), the Specification must sufficiently describe an invention understandable to a person of ordinary skill in the art and “show that the inventor actually invented the invention claimed.” *Ariad Pharm., Inc. v. Eli*

Lilly & Co., 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). In other words, a patent applicant must “convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the ‘written description’ inquiry, whatever is now claimed.” *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991). “Such description need not recite the claimed invention *in haec verba* but must do more than merely disclose that which would render the claimed invention obvious.” *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1377 (Fed. Cir. 2009).

1. “*generating information relating to a game screen based on a received instruction*” and “*storing basic information of game contents and state information changing according to the progress of the game*”

Claim 1 recites “storing basic information of game contents and state information changing according to the progress of the game” and “generating information relating to a game screen based on a received instruction.” Ex. 1001, 13:53–55, 13:57–58.

Petitioner contends that “the ’793 patent fails to provide adequate written description of generating information relating to a game screen based on a received instruction.” Pet. 53. Petitioner particularly points to the limitations “generating information relating to a game screen based on a received instruction” and “wherein the screen information relates to a first game screen that displays game contents and information relating to a second game screen that displays state information of the game contents.” *Id.* (quoting Ex. 1001, 13:57–58). According to Petitioner, the ’793 patent does not describe how information relating to a game screen is generated based on a received instruction and how information relating to the first and

second game screens is generated. *Id.* at 52–53 (citing Ex. 1001, 7:59–61, 8:56–64, 9:9–14); Pet. Reply 21 (citing Ex. 1001, 7:59–61).

Petitioner also contends that the '793 patent fails to provide adequate written description for the limitations “storing basic information of game contents and state information changing according to the progress of the game” and “the second game screen includes the latest state information at a time when receiving a first instruction which is an instruction to update the state information.” Pet. 55. Petitioner argues that the Specification fails to describe how to determine or store state information that changes according to the progress of the game or how the latest state information is included in the second game screen. *Id.* at 56–57 (citing Ex. 1001, 7:42–43, 8:37–41, 8:46–49, 9:60–67, 12:29–44). Petitioner also argues that the instruction received from the user can be any user instruction. *Id.* at 57 (citing Ex. 1001, 7:54–58).

Patent Owner responds that Petitioner “does not apply the proper test for written description” and “Petitioner’s arguments are insufficient as a matter of law.” PO Resp. 68. Specifically, Patent Owner argues that Petitioner “never addresses the level of ordinary skill in the art” and “fails to provide any explanation of how a [person of ordinary skill in the art] would understand the disclosure of the '793 patent.” *Id.* at 69; PO Sur-Reply 21. Patent Owner contends that the Specification provides adequate written description. PO Resp. 69–71 (citing Pet. 53–54; Ex. 1001, 4:32–34; Ex. 2004 ¶¶ 89–98).

Petitioner replies that the challenged claims “recite the purely functional language . . . without ever providing disclosure of *how* that function is performed.” Pet. Reply 21. Petitioner argues that the knowledge

of one of ordinary skill in the art cannot make up for the lack of disclosure. *Id.* at 21–22 (citing PO Resp. 71; Ex. 1009, 116:10–117:2; Ex. 2004 ¶¶ 99–105). Patent Owner replies that unrefuted expert testimony is sufficient and “Petitioner’s attorney arguments, unsupported and devoid of facts, cannot meet its burden to demonstrate lack of written description.” PO Sur-Reply 21–22 (citing *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1345–46 (Fed. Cir. 2016); *Vasudevan Software, Inc. v. MicroStrategy Inc.*, 782 F.3d 671, 683 (Fed. Cir. 2015); Ex. 2004 ¶¶ 88–98).

2. Analysis

We agree with Patent Owner that Petitioner does not assert a level of ordinary skill and does not present, for example, declarant testimony to support its argument of how one of ordinary skill in the art would understand the claims and the Specification to support its argument that an ordinarily skilled artisan would find inadequate written description support for the claims.

Patent Owner, on the other hand, describes how the Specification of the ’793 patent, with supporting declarant testimony, provides adequate written description for the disputed limitations. PO Resp. 69–71 (citing Pet. 53–54; Ex. 1001, 4:32–34; Ex. 2004 ¶¶ 89–105). The Specification states that “a screen information generator that generates information relating to a game screen based on an instruction received by the instruction receiving device.” Ex. 1001, 4:32–34. Patent Owner also presents declarant testimony that explains the quoted portion of the Specification and that the ordinarily skilled artisan would have understood from the Specification that it provides adequate written description support for the disputed recitations. Ex. 2004 ¶¶ 89–105 (citing Ex. 1001, 2:1–7, 3:9–12, 3:46–53, 4:32–34,

4:37–41, 4:47–49, 7:24–58, 8:9–11, 8:18–35, 8:42–45, 8:65–67, 11:5–6, Figs. 2A, 2B). We credit Patent Owner’s declarant testimony because the relied upon portions of the Specification support it.

In view of the full record before us, a preponderance of the evidence does not persuade us that “storing basic information of game contents and state information changing according to the progress of the game” and “generating information relating to a game screen based on a received instruction,” as recited by the claims, lack adequate written description support.

E. Challenge Under 35 U.S.C. § 112(b)

Petitioner contends that the phrases “the generated game screen” of claims 1, 11, and 17 and “the screen information” of claim 1 lack antecedent basis. Pet. 18–20, 61–63; Pet. Reply 5, 22–25. Petitioner also contends that, because “generating information relating to a game screen based on a received instruction” and recitations regarding the storing and generating of game screen information that includes the latest state information lack adequate written description support, these recitations are also indefinite. *Id.* at 63–65. Patent Owner responds. PO Resp. 71–74; PO Sur-Reply 22–24. Petitioner also presents arguments specifically for claim 8, which has been disclaimed by Patent Owner. Pet. 63, 65–66; Ex. 2003.

1. Principles of Law

“[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent and the prosecution history, fail to inform with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Inst., Inc.*, 134 S. Ct. 2120, 2123 (2014); *In re Packard*, 751 F.3d 1307, 1311 (Fed. Cir. 2014) (holding a

claim is indefinite when it contains words or phrases whose meaning is “unclear in describing and defining the claimed invention”). “The claims, when read in light of the specification and the prosecution history, must provide objective boundaries for those of skill in the art.” *Interval Licensing, LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014).

2. *The Parties’ Contentions*

Petitioner argues that “the generated game screen” lacks antecedent basis because the “prior generation/generating step of each independent claim recites generation of information ‘relating to’ a game screen” and not “generation of *the screen itself*.” Pet. 61. Petitioner asserts that it is unclear if “outputting information relating to the generated game screen” is “the screen information.” *Id.* at 62. Petitioner also asserts that the claims further require that the screen information “relates to a first game screen . . . and . . . a second game screen.” *Id.*

Petitioner contends that “generating information relating to a game screen based on a received instruction” lacks written description support because “the [S]pecification is unclear, for example, as to how the information processing apparatus generates the information,” “what it means that the information generated is ‘based on’ a received instruction,” “*what kind of instruction the generated information is based on,*” and “what it means for information to ‘relate to’ a game screen.” *Id.* at 63–64.

Regarding storing and generating game screen information that includes the latest state information, Petitioner argues that the Specification is “unclear as to how any part of the process is performed” and “never describes how the system knows that the update instruction is received and

how that information causes it to display the latest state information.” *Id.* at 64–65.

Patent Owner responds that “Petitioner argues that claims 1–20 are indefinite based on Petitioner’s argument that the claims lack written description” but “indefiniteness is a separate and distinct analysis from written description.” PO Resp. 72. Patent Owner also asserts that Petitioner does not assert any level of skill in the art or present evidence from the perspective of one of ordinary skill in the art. *Id.* at 72–73.

Patent Owner also argues that, when reading the claim as a whole and the Specification, a person of ordinary skill in the art would have understood that “the generated game screen” refers to “generating information relating to a game screen.” *Id.* at 73–74 (citing Ex. 1001, 3:19–28, Fig. 5). Patent Owner further responds that “the screen information” refers to “information relating to a game screen” with support from the Specification and claim language. *Id.* at 74 (citing Ex. 1001, 3:15–28, 13:57–58).

Petitioner replies that Patent Owner’s declarant testified that information relating to a screen and a screen are not the same. Pet. Reply 22–23 (citing Ex. 1009, 49:25–50:2). Petitioner also contends that Patent Owner’s declarant was confused by the wherein clause, which conflicts with his declaration. *Id.* at 23 (citing Ex. 1009, 69:10–70:2; Ex. 2004 ¶ 52). Petitioner further argues that the mismatch in claimed scope of “generating information relating to a game screen based on a received instruction” and lack of adequate written description about how the information is generated shows uncertainty. *Id.* at 24–25.

Patent Owner replies that, when the claims are read as a whole in view of the Specification, one of ordinary skill in the art would have understood

“the generated game screen” refers to “generating information relating to a game screen.” PO Sur-Reply 22–23 (citing Pet. Reply 22–23; Ex. 1001, 3:19–28, 13:57–60, Fig. 5). Patent Owner also argues that “generating information relating to a game screen based on a received instruction” is clear in view of claim language and the Specification. *Id.* at 23–24 (citing Ex. 1001, 3:15–28, 13:57–58).

3. Analysis

Based on the full record before us, we are not persuaded that “the generated game screen” lacks antecedent basis. We agree with Patent Owner that, when the claim is read as a whole, “the game screen” logically refers to “generating information relating to a game screen.” PO Resp. 73–74. We also find that the relied-upon portions of the Specification support Patent Owner’s position. *See* Ex. 1001, 3:19–28, 13:57–58, Fig. 5. The Specification, for example, describes that:

an output step in which an output device of the information processing apparatus outputs information relating to the game screen generated in the screen information generation step to a user terminal at a predetermined time, wherein, in the screen information generation step, information relating to a first game screen that displays the game contents and information relating to a second game screen includes latest state information at a time when a first instruction which is an instruction to update the state information is received in the instruction receiving step.

Ex. 1001, 3:19–28.

Also, as discussed above, the full record does not persuade us that the recitations relating to generating information relating to a game screen based on received instruction or storing and generating game screen information that includes the latest state information lack adequate written description. *See* Ex. 2004 ¶¶ 89–105.

For the reasons above, Petitioner does not persuade us by a preponderance of the evidence that the challenged claims are indefinite under either the *Nautilus* standard or the *Packard* standard.

IV. CONCLUSION⁴

In summary:

Reference(s)	Basis	Claims	Claims Shown Unpatentable	Claims Not Shown Unpatentable
	§ 101	1–7 and 9–20		1–7 and 9–20
	§ 112(a)	1–7 and 9–20		1–7 and 9–20
	§ 112(b)	1–7 and 9–20		1–7 and 9–20

⁴ 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).

V. ORDER

Accordingly, it is:

ORDERED that claims 1–7 and 9–20 of U.S. Patent No. 9,700,793 B2 have not been shown, by a preponderance of the evidence, to be unpatentable; and

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

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