

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SONY INTERACTIVE ENTERTAINMENT LLC,  
Petitioner,

v.

QUANTUM IMAGING LLC,  
Patent Owner.

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IPR2023-00996  
Patent 10,991,165 B2

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Before SCOTT A. DANIELS, KEVIN W. CHERRY, and  
JAMES J. MAYBERRY, *Administrative Patent Judges*.

DANIELS, *Administrative Patent Judge*.

DECISION  
Granting Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

Sony Interactive Entertainment LLC (“Petitioner”) filed a petition to institute *inter partes* review of claims 1–3, 5–8, 10–12, and 18 of U.S. Patent No. 10,991,165 B2 (Ex. 1001, “the ’165 patent”). Paper 1 (“Pet.”). Quantum Imaging LLC (“Patent Owner”) filed a Preliminary Response. Paper 9 (“Prelim. Resp.”).

We have authority under 35 U.S.C. § 314 to determine whether to institute an *inter partes* review. The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” The Supreme Court has held that the Board, in a decision to institute under 35 U.S.C. § 314(b), may not institute review on less than all claims challenged in the petition. *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1355–56 (2018). Moreover, in accordance with our rules, “[w]hen instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.” 37 C.F.R. § 42.108(a) (2022); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

Applying those standards, and upon considering the Petition, the Preliminary Response, and the evidence of record, we determine the information presented shows a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of at least one of the challenged claims of the ’165 patent. Accordingly, we institute an *inter partes* review

of all challenged claims (i.e., claims 1–3, 5–8, 10–12, and 18) of the ’165 patent, based on the grounds asserted in the Petition.

## II. BACKGROUND

### *A. Related Matters*

The parties identify the following district-court proceeding involving the ’165 patent and related patents: *Quantum Imaging LLC v. Sony Group Corporation, et al.*, Case No. 6:22-cv-00573-ADA-DTG (W.D. Tex., filed June 3, 2022). Pet. 2; Paper 5, 1 (Patent Owner’s Mandatory Notices).

### *B. Real Parties in Interest*

Petitioner identifies Sony Interactive Entertainment Inc., Bluepoint Games, Inc., Sony Group Corporation, and Sony Corporation of America as the real parties-in-interest. Pet. 1. Patent Owner identifies Quantum Imaging LLC as the real party in interest. Paper 5, 2.

### *C. Overview of the ’165 patent*

The ’165 patent is entitled “Interactive Virtual Thematic Environment,” and “relates to an interactive software application platform which can be used in entertainment, business, publishing, and other applications to provide a virtual and real world experience to the user by integrating audio, video, two dimensional (2D), and three dimensional (3D) technology, and other applications or services.” Ex. 1001, code (54), 1:28–33. The patent states “virtual environments, especially those present on the internet, for example, have not provided the user with a real world experience.” *Id.* at 1:44–46. The patent is thus “directed to an interactive software application platform which can be used in entertainment, business, publishing, and other applications to provide a virtual and real world experience to the user by integrating audio, video, two dimensional (2D),

and three dimensional (3D) technology, and other applications or services.”  
*Id.* at 1:52–57.

Figure 1, reproduced below, “is a schematic showing one embodiment of the six-level logical architecture of an interactive software platform consistent with the present invention.” *Id.* at 6:41–43.

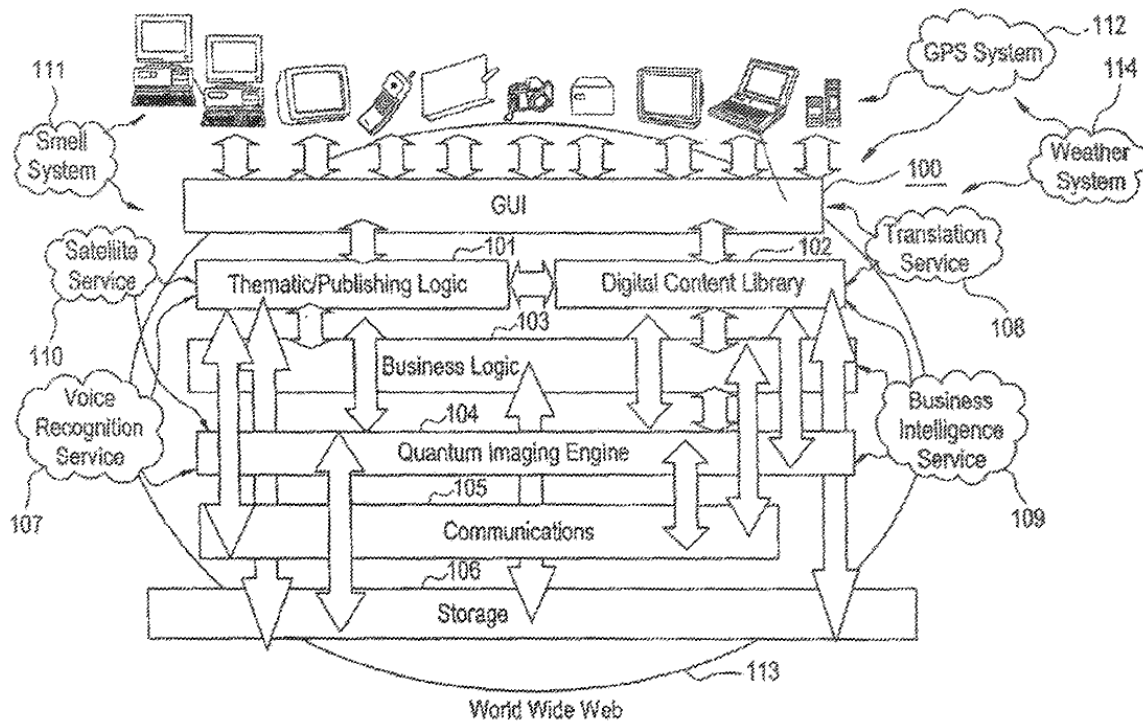


Figure 1 illustrates:

The six layers of the virtual platform include 1) a graphical user interface (GUI) 100, 2) a Thematic/Publishing Logic 101 and a Digital Content Library 102, 3) a Business Logic 103, 4) a thematic or zone application builder and interpreter (i.e., a Quantum Imaging Engine 104), 5) Communications 105, and 6) a Data Storage 106.

*Id.* at 11:62–67. The software program of the '165 patent is “in a Quantum Imaging Environment (QIE),” where the logical architecture “is implemented on a 6-tier modular system (i.e., six layers), and at least six (6) service area modules, which are fully distributed across the internet.” *Id.* at

11:56–61. Along with Figure 2, as annotated by the Board and reproduced below, the '165 patent explains that

[t]he QIE 202/211 is both part of the client and the server components in the embodiment of FIG. 2. The QIE 202/211 includes an interpreter that will allow data to be transmitted to any device, and is the basis for the design structure and layout for applications.

*Id.* at 15:54–58.

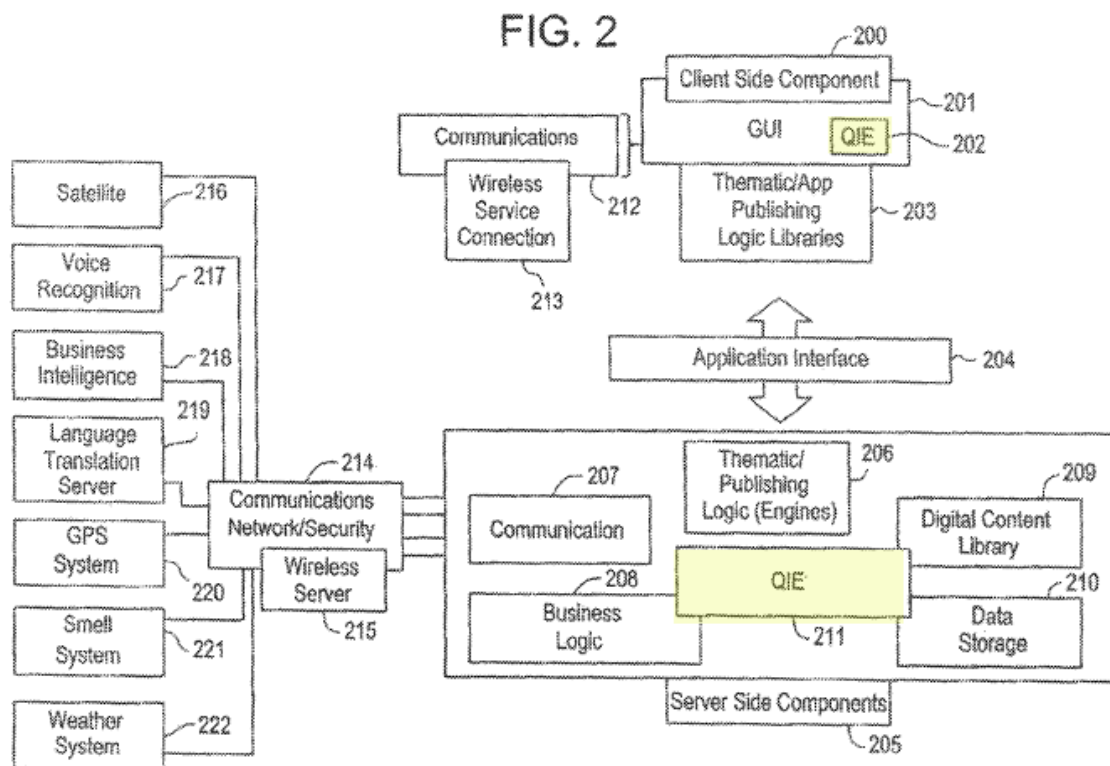


Figure 2 of the '165 patent illustrates schematically an embodiment of the interactive software application platform including server side components 205 communicating across application interface 204 with client side component 200.

#### *D. The Challenged Claims*

Petitioner challenges claims 1–3, 5–8, 10–12, and 18 of the '165 patent. Pet. 1. Of the challenged claims, claims 1 and 18 are independent.

Claim 1, reproduced below, is illustrative of the subject matter recited in the challenged claims (bracketing added).

1[Preamble]. A method of integrating real-time information into a virtual thematic environment using a computer system including a client and a server, comprising:

[a] providing a graphics user interface (GUI) module for use in the client system;

[b] providing a quantum imaging environment (QIE) module in one of the client or the server system;

[c] providing a thematic/publishing logic module in one of the client or the server system;

[d] providing a primary application in the client system;

[e] providing a first user interface that is associated with the primary application;

[f] sending a request for first real-time information via the QIE module to the world wide web;

[g] obtaining the first real-time information via the world wide web;

[h] downloading the first real-time information from the world wide web into the primary application;

[i] providing access to the first real-time information within the virtual thematic environment via the first user interface;

[j] providing at least one secondary application within the primary application at the client system;

[k] sending a request for second real-time information via the QIE module;

[l] obtaining the second real-time information via the world wide web;

[m] downloading the second real-time information into the secondary application;

[n] enabling a user to access the at least one secondary application through the first user interface; and

[o] enabling the user to control the at least one secondary application through a second user interface.

Ex. 1001, 43:37–44:2. Independent claim 18 is quite similar but additionally recites “at least one non-transitory memory device containing at least one program comprising the steps of.” *See id.* at 45:24–25.

*E. Evidence*

Petitioner submits the following evidence:

<b>Evidence</b>	<b>Exhibit No.</b>
Pisanich, WO 02/062436 A2 (published Aug. 15, 2002, filed Feb. 6, 2002) (“Pisanich”)	1007
Phantasy Star Online Manual (“PSO Manual”) <sup>1</sup>	1008
Declaration of David Crane	1003

*F. Asserted Ground of Unpatentability*

Petitioner asserts the following grounds of unpatentability:

<b>Claim(s) Challenged</b>	<b>35 U.S.C. §</b>	<b>Reference(s)</b>
1–3, 5–8, 10–12, and 18	103(a) <sup>2</sup>	Pisanich
1–3, 5–8, 10–12, and 18	103(a)	PSO Manual

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<sup>1</sup> Petitioner contends the PSO Manual “was distributed publicly at least as early as [ ]March 31, 2001.” Pet. 4–5. Patent Owner disputes the publication date. Prelim. Resp. 36–41.

<sup>2</sup> The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. The ’165 patent claims benefit of a Mar. 22, 2004, filing date, which is before the effective date of the applicable AIA amendments. Ex. 1001, code (60). Petitioner states that “the earliest priority date of the ’165 Patent should be Mar. 22, 2004.” Pet. 8. Thus, we refer to the pre-AIA version of 35 U.S.C. § 103. Our decision would be the same were we to apply the AIA version of the statute.

Pet. 4. Patent Owner disputes Petitioner’s asserted grounds of unpatentability. *See generally* Prelim. Resp.

### III. PATENTABILITY ANALYSIS

Petitioner contends that claims 1–3, 5–8, 10–12, and 18 of the ’165 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Pisanich, and also obvious over the PSO Manual and the knowledge of a person of ordinary skill in the art. Pet. 4.

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) when in evidence, objective evidence of nonobviousness.<sup>3</sup> *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the

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<sup>3</sup> Patent Owner does not present arguments or evidence of secondary considerations in its Preliminary Response. Therefore, secondary considerations do not constitute part of our analysis herein.



grounds for the challenge to each claim”)). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

We organize our patentability analysis into four sections. First, we address the level of ordinary skill in the art. Second, we address claim construction. Third, we provide an overview of the asserted references. And fourth, taking account of the information presented, we consider—and have determined, that the Petition satisfies the threshold requirement for instituting an *inter partes* review under 35 U.S.C. § 314(a).

*A. Level of Ordinary Skill in the Art*

We consider the asserted grounds of unpatentability in view of the understanding of a person of ordinary skill in the art. In assessing the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (quoting *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)). “[O]ne or more factors may predominate.” *Id.*

Relying on the declaration testimony of Mr. Crane, Petitioner contends that an ordinarily skilled artisan for the ’165 patent

would have had a bachelor degree in computer engineering, computer science, or a similar discipline, and/or two years of professional experience in the fields of networking and network-based systems or applications, such as client-server and web-based systems, in the specific context of console and gaming or an equivalent level of skill, knowledge, and experience. A

POSITA<sup>[4]</sup> would have at least a general knowledge of online and in-game advertising methods prevalent in the field, as well as at least a general knowledge of 3D rendering and virtual reality.

Pet. 8–9 (citing Ex. 1004 ¶ 43). Patent Owner states that it “applies Petitioner’s characterization of a POSITA.” Prelim. Resp. 6.

Based on this record, and because there is no dispute, we adopt Petitioner’s articulation of the level of ordinary skill in the art, which is consistent with the ’165 patent and the asserted prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art, itself, can reflect appropriate level of ordinary skill in art).

### *B. Claim Construction*

In interpreting the claims of the ’165 patent, we “us[e] the same claim construction standard that would be used to construe the claim[s] in a civil action under 35 U.S.C. [§] 282(b).” *See* 37 C.F.R. § 42.100(b) (2020). The claim construction standard includes construing claims in accordance with the ordinary and customary meaning of such claims as would have been understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. *See id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (*en banc*).

Petitioner indicates it “believes that no express constructions of the claims are necessary to assess whether the prior art reads on the Challenged Claims.” Pet. 11. Petitioner provides the following terms from patents related to the ’165 patent that were construed in an earlier district court proceeding.<sup>5</sup> According to Petitioner, in *Barbaro Technologies, LLC v.*

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<sup>4</sup> “POSITA” is a “person of ordinary skill in the art.”

<sup>5</sup> Patent Owner explains that “[t]he *Niantic* court construed several claim terms of U.S. Patent Nos. 7,373,377 and 8,228,325, which belong to the

*Niantic, Inc.*, No. 3:18-cv-02955 (N.D. Cal.), the following terms were construed as follows:

“*graphics user interface (GUI) module*” – “software that provides a graphical display and processes user inputs to allow a user to interact with the graphical display.”

“*quantum imaging environment (QIE) module*” – “a software layer which receives and interprets content such that the content is manipulated so as to be accessible on different types of devices for use within the virtual thematic environment.”

“*virtual thematic environment*” – “a theme-based virtual computer interface.”

*Id.* Patent Owner points out that in *Niantic*, the District Court also construed the following additional terms:

“*secondary application within the primary application*” – “secondary computer program within the primary computer program.”

“*world wide web*” – “a aspect of the internet using web-based protocols such as HTTP and HTTPS”

Prelim. Resp. 6.

Patent Owner notes that certain claim terms “have been construed by a district court,” meaning the *Niantic* Court, but notes “Petitioner fails to make any statement proposing that the claim terms be construed according to their plain and ordinary meaning.” *Id.* at 6–8. Patent Owner states that it “adopts the district court construction for the above terms,” again, presumably meaning the *Niantic* Court. *Id.* at 8. Petitioner does not

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same patent family and share the same specification and figures with the '165 Patent.”

acquiesce to the *Niantic* Court’s constructions but states that “for purposes of this petition only, Petitioners demonstrate below that the asserted prior art references in Grounds 1 and 2 meet the Niantic court’s construction of the claim terms.” Pet. 11.

Having considered the record before us at this early stage of the proceeding, and because there is no actual dispute as to the meaning of these or apparently any claim terms, we determine that no express claim construction is necessary for any particular claim term. And, like the parties, for purposes of this Decision we adopt, and where appropriate refer to the District Court’s claim constructions in *Niantic*. Apart from this, on this early record we determine that we need not further expressly construe any claim terms to resolve the parties’ disputes. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (holding that only claim terms in controversy need to be construed, and only to the extent necessary to resolve the controversy (citing *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

### C. *The Prior Art*

Before turning to Petitioner’s asserted grounds of unpatentability, we provide brief summaries of the asserted references.

#### 1. *Pisanich (Ex. 1007)*

*Pisanich* is a published international patent application entitled “Integration of Real-Time Data into a Gaming Application.” Ex. 1007, code (54). *Pisanich* relates “to games using real world data to simulate game play.” *Id.* at 1:2–3. *Pisanich* explains that prior to the invention, “in a flight simulator game, the player typically chooses different weather conditions, traffic conditions, and other features of the gaming environment,” and the

“application generates a simulated environment which then conforms to those parameters.” *Id.* at 1:14–16. “As such, conventional flight simulators may ‘simulate’ external data but this data does not reflect actual current weather or traffic conditions.” *Id.* at 1:16–18. Therefore, according to Pisanich, “a new gaming architecture is needed in which real world events, environments, actors, and objects can be incorporated during a gaming experience, providing a player with the true simulation of a real world experience, and also the added excitement of taking part in actual real world events as they occur.” *Id.* at 2:11–14. Thus, in Pisanich, “real world information is incorporated into a virtual environment provided for a game.” *Id.* at 2:17–18.

Pisanich explains that:

For a flight simulator game, the real world information includes weather information such as cloud cover, precipitation, wind, fog, as well as air traffic data, including the location of other planes near the player, altered routes of other planes, and airport conditions, for the selected location, at a time period at or near to the time the information is requested.

*Id.* at 2:22–3:3. Then, “the application module generates simulated real world constructs responsive to the real world information.” *Id.* at 3:3–4.

Figure 3, reproduced below, is a block diagram of Pisanich’s game system, annotated by Petitioner to show the corresponding claim terms.

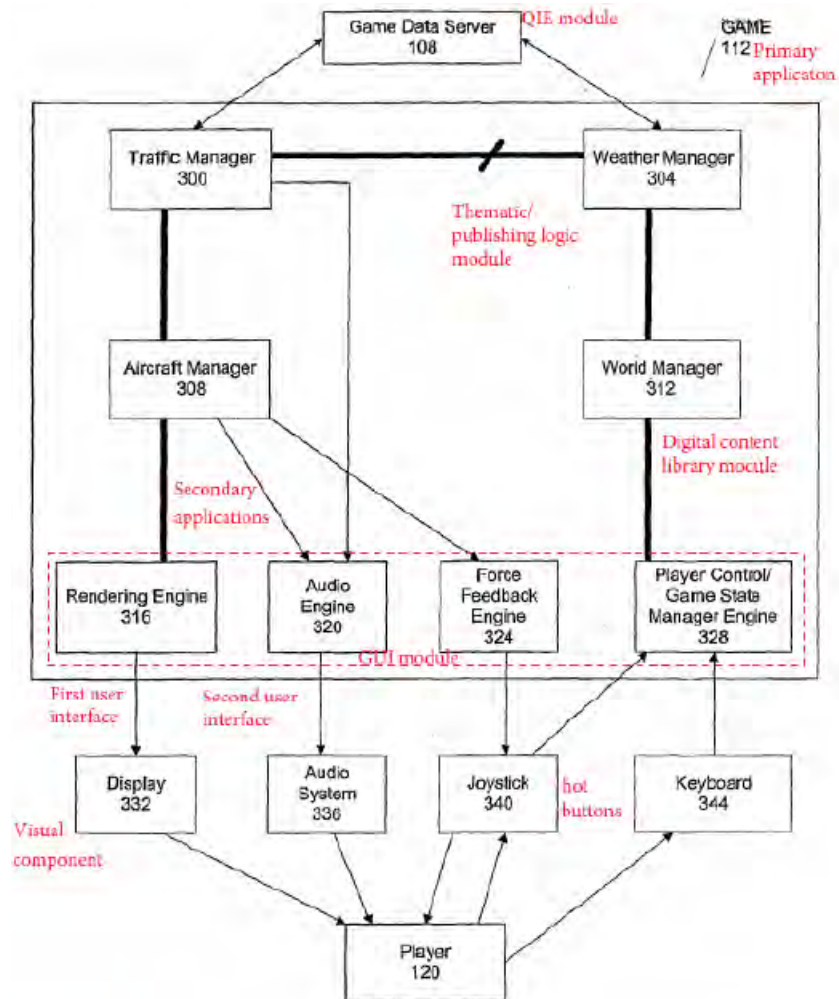


Figure 3 shows game server 108, game 112, traffic manager 300, weather manager 304, aircraft manager 308, world manager 312, rendering engine 316, audio engine 320, force feedback engine 324, and player control 328. *Id.* at 5:13–15, 10:1–8. Traffic manager 300 maintains an internal database of the real-time traffic in the world that the user experiences, and simulates the movement of the traffic and its control by air traffic controllers. *Id.* at 10:9–11. Rendering engine 316 requests air traffic data position from traffic manager, and uses this data to display the aircraft within the world on the game display. *Id.* at 10:17–20. Weather manager 304 maintains an internal database of the real-time weather in the world that the user experiences, and

simulates realistic, changing weather based on the real time weather feed.  
*Id.* at 11:5–18.

2. *PSO Manual (Ex. 1008)*

PSO Manual is a guide for an electronic game, “Phantasy Star Online,” which is a role-playing online multiplayer video game. Pet. 38. The manual “discloses that various functions of the *Phantasy Star Online* video game, where players interact with a graphical user interface on their screen to access and select real-time information in the form of quest missions, items, player positions, and Guild Cards.” Pet. 39 (citing Ex. 1008, 10, 14, 15, 21, 25).

The cover of the PSO Manual is reproduced below.



The manual cover shows it is a manual for an online multi-player game for the Sega game console. Ex. 1008, 1.

*D. Ground 1: Claims 1–3, 5–8, 10–12, and 18 – Obviousness over Pisanich*

Petitioner contends that claims 1–3, 5–8, 10–12, and 18 of the ’165 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Pisanich. Pet. 12–37. Patent Owner opposes. Prelim. Resp. 12–36. Having

considered the arguments and evidence before us, we determine that the record establishes a reasonable likelihood that Petitioner would prevail on this asserted ground of unpatentability.

1. *1[preamble] “A method of integrating real-time information into a virtual thematic environment using a computer system including a client and a server, comprising:”*

Based on the disclosures in Pisanich, Petitioner argues that “[a] POSITA would have understood that an electronic game has a theme and is thus theme-based and it provides a virtual computer interface such as a graphical user interface to a player of the game so that the user can interact with the game.” Pet. 15 (citing Ex. 1004 ¶ 122). Petitioner’s declarant, Mr. Crane, testifies that Pisanich discloses “the ‘Game Data Server 108,’ which integrates real-time information into the game . . . [a] POSITA would have understood that a computer game that received information from an external server (commonly referred to as a client/server game system) included a **client** (the computer system upon which the game was played) and a **server.**” Ex. 1004 ¶ 123.

Patent Owner does not specifically address the preamble of claim 1. Prelim. Resp. 18.

Pisanich describes that “[r]eal world data is integrated into a gaming experience to influence the game and actions of a player. A game module creates game elements from the real world data associated with the location.” Ex. 1001, Abstract. Pisanich also describes a computer system including game data server 108 as well as game 112 and player 120 in Figure 2 reproduced below.



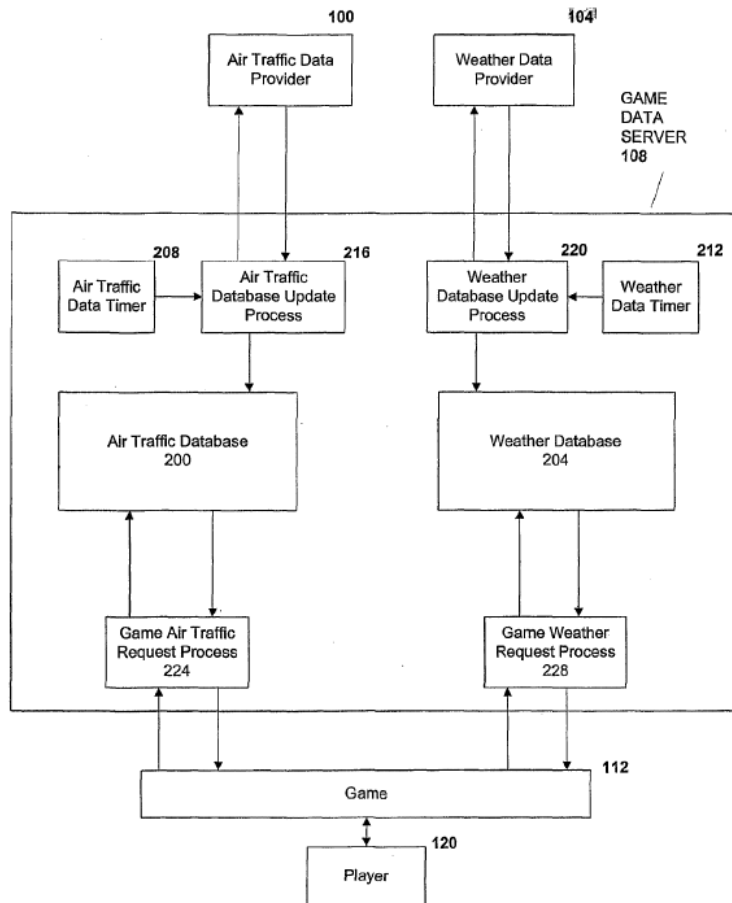


Figure 2

Pisanich’s Figure 2 above illustrates game data server 108 which “continually gathers ‘real time’ data from traffic 100 and a weather 104 data provider systems. On request, the game data server 108 permits data available to a game 112, 116 and players 120, 124.” *Id.* at 5:13–15.

Considering all the evidence before us at this early stage of the proceeding, we are persuaded that Petitioner has shown a reasonable likelihood that Pisanich teaches or discloses all the elements of the preamble of claim 1.

2. 1[a] “providing a graphics user interface (GUI) module for use in the client system;”

Petitioner argues Pisanich teaches that “game 112 includes a traffic manager 300 that communicates with rendering engine 316 for rendering graphical display elements onto display 332.” Pet. 16 (citing Ex. 1007, 10:17–20). Mr. Crane testifies that “[t]he flight simulator disclosed by Pisanich was well known in the art to be operable through a GUI interface.” Ex. 1004 ¶ 124. Mr. Crane explains that in Pisanich

a player viewed the virtual world through the window of a cockpit using the claimed **software that renders graphical display elements onto the visual component**; and the player interacted with controls in the cockpit that **permits a user to interact with a graphical display element within the virtual thematic environment** as claimed.

*Id.* (citing Ex. 1007, 15:17–20, 16:10–11, 6:18, 8:13–15).

Patent Owner disputes that a GUI “is somehow disclosed in Pisanich by a combination of the following: (1) traffic manager 300; (2) rendering engine 316; (3) force feedback engine 324; (4) player control/game state manager engine 328; (5) joystick 340; and (6) keyboard 344.” Prelim. Resp. 19. More specifically, Patent Owner asserts also that “Petitioner offers no reasoned argument or supporting evidence to show that its asserted combination of components is ‘software’” or “that such ‘GUI module’ is provided for use in the ‘client system,’ as required by claim 1[a].” *Id.*

We disagree with Patent Owner’s premise that these elements and components described by Pisanich would not have been understood as software or using software by a person of ordinary skill in the art, or really any person with a rudimentary understanding of computer software and hardware. The technical functions, embodiments, and implementations of

software, including how to output through a display, recognizable, cogent data and objects so as to be understood and recognized by a human being are well known in almost every modern field of study and endeavor. The Microsoft Computer Dictionary, 5th Ed., defines software as:

**software** *n.* Computer programs; instructions that make hardware work. Two main types of software are system software (operating systems), which controls the workings of the computer, and applications, such as word processing programs, spreadsheets, and databases, which perform the tasks for which people use computers.

Ex. 3001, 489. To this end, Pisanich expressly describes “a new gaming architecture . . . in which real world events, environments, actors, and objects can be incorporated during a gaming experience” and that this architecture is embodied in “a software product embodiment.” Ex. 1007, 2:11–18. Mr. Crane is a person with extensive experience and skill in the art of computers and software gaming applications and testifies that “as of the effective filing date of the ‘165 patent a POSITA would have been aware of various different types of software, programming languages, and applications related to the subject matter of the ‘165 patent.” Also, Mr. Crane’s testimony as to the teaching, disclosure, and technical computer hardware and software characteristics described in the prior art references is unrebutted at this point in the proceeding. We find, on this record, that Petitioner and Mr. Crane have provided sufficient arguments and supporting evidence that an ordinary skilled artisan would have understood Pisanich’s computer system elements and components as including computer programs embodied in software and software applications.

We acknowledge that Pisanich does not explicitly describe a “GUI.” However, Pisanich describes that “[i]n conventional computer gaming

experiences, the player is immersed in a closed environment driven by the application developer.” Ex. 1007, 1:5–6. Pisanich further describes that “a player 120 controls a gaming unit within a game 112, for example, an aircraft, a car, or the like, the game 112 requests data from the game data server 108 as required to provide a realistic environment for the game.” Mr. Crane testifies that computer flight simulator games were well known and that “a player viewed the virtual world through the window of a cockpit using . . . **software that renders graphical display elements onto the visual component**; and the player interacted with controls in the cockpit that **permits a user to interact with a graphical display element within the virtual thematic environment.**” Ex. 1004 ¶ 124. On this record, it is reasonable to understand from Pisanich and Mr. Crane’s unrebutted explanation that Pisanich’s described game 112 and game data, for example a computer flight simulator game, would have been understood by a person of ordinary skill in the art as including “software that provides a graphical display and processes user inputs to allow a user to interact with the graphical display” in accordance with the District Court’s construction in *Niantic*. See *supra*, Section III.B.

3. 1[b] “*providing a quantum imaging environment (QIE) module in one of the client or the server system;*”

Petitioner provides two arguments one for the “server system” limitation and the other for the “client system” limitation in 1[b]. For the server side, Petitioner offers that in accordance with the District Court’s construction in *Niantic*, “Pisanich discloses that game data server 108 receives, interprets, and manipulates content, i.e., real world information, in real time so as to be accessible on different types of devices for use within the game.” Pet. 19–20 (citing Ex. 1007, 5:13–15). Second, Petitioner

argues that for the client side, i.e., game 112, “at least the rendering engine 316 acted as a QIE module in the client system.” *Id.* at 20. We reproduce Petitioner’s annotated Figure 3 from Pisanich, below, where Petitioner equates game data server and QIE module.

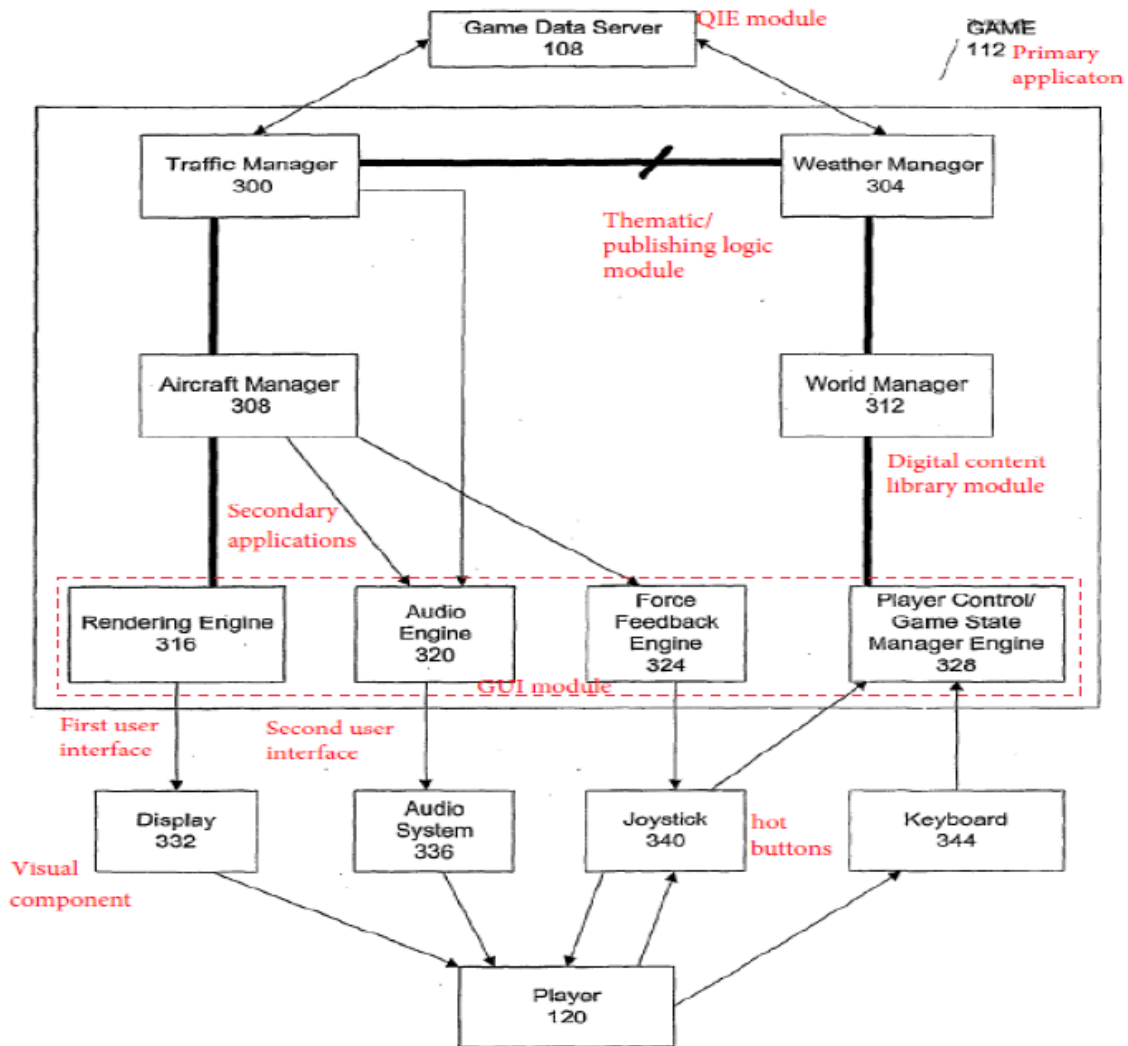


Figure 3 (Annotated)

Pisanich’s Figure 3, as annotated by Petitioner, illustrates game data server 108 interfacing with game 112 including various software modules such as traffic manager 300, weather manager 304, aircraft manager 308, each

connected through rendering engine 316 to a player's, i.e., a client's, display 332.

Considering game data server 108, Pisanich explains that game data server 108 continually gathers 'real time' data from traffic 100 and a weather 104 data provider systems. On request, the game data server 108 permits data available to a game 112, 116 and players 120, 124. The data providers 100, 104 are located remotely and are typically accessed via the internet or through some other communications means (such as a satellite, or a leased line).

Ex. 1007, 5:13–17l, Figs. 1–2. From this description, and for the first argument, we understand that game data server 108 is certainly receiving real world, real time data, and manipulating it, at least by transferring it to a database for use in a game. *Id.* at 5:20–21. Because a database is a software program, this description seems to reasonably fall within the meaning of a QIE module—that is “a software layer which receives and interprets content such that the content is manipulated so as to be accessible on different types of devices for use within the virtual thematic environment.” *See* Section III.B.

With respect to Petitioner's client side argument and Pisanich's Figure 3, Patent Owner argues that “displaying the ‘state of the game’ to a user does not disclose ‘a software layer which receives and interprets content such that the content is manipulated so as to be accessible on different types of devices for use within the virtual thematic environment,’ as required by claim 1[b] under the *Niantic* construction.” Prelim. Resp. 23.

It appears, however, at least considering Pisanich and the currently un rebutted testimony of Mr. Crane, that at least rendering engine 316 would have been understood by an ordinary skilled artisan as a software

component, module or “layer” of game 112, that would have “received and interpreted” content, i.e. data, from other software modules such as the aircraft and weather managers 304, 308 and “used conventional technology to display objects internal to the cockpit, and to display objects external to the aircraft in the virtual thematic environment.” Ex. 1004 ¶ 128. Pisanich explains for instance that “rendering engine 316 displays to the user the internal (cockpit) and external (terrain, weather, other aircraft) state of the game via the display 332 using conventional technology.” Ex. 1007, 16:10–11.

In addition, Mr. Crane testifies that “‘conventional technology’ included rendering technology configured to account for differences between multiple gaming devices as needed (*See* ¶ 83) allowing the video game content to be operable on different types of devices.” Ex. 1004 ¶ 129. In his declaration, Mr. Crane explained that it “was well known in the art prior to the effective filing date of the ‘165 patent, games were often made available for multiple devices. This allowed for players to enjoy a game regardless of what game system they had in their home or pocket.” *Id.* ¶ 81. According to Mr. Crane, “[a]llowing for different capabilities across devices was almost a financial necessity, spreading the high cost of game development across multiple platforms.” *Id.* By way of example, Mr. Crane provides screen shots of the same flight simulator game on different gaming devices from years 1984–1987. *Id.* ¶ 83.



**Apple II, 1984**



**Atari 8-bit, 1984**



**Commodore 64, 1984**



**Atari ST, 1984**



**Amiga 1986**



**TRS-80, 1987**

Mr. Crane’s screenshots above reveal six different gaming devices from years 1984–1987 displaying the SubLOGIC Flight Simulator II game. Mr. Crane testifies that “[a]s far back as the 1980s, conventional rendering technology was configured to interpret and manipulate game content so as to be accessible on different types of devices.” *Id.* ¶ 84.

Considering all the evidence before us at this early stage of the proceeding, we are persuaded that Petitioner has shown a reasonable likelihood that Pisanich teaches or discloses all the elements of claim limitation 1[b].



4. *1[c] “providing a thematic/publishing logic module in one of the client or the server system;”*

Petitioner argues that “Pisanich discloses a game system that controls aircraft operation based on a ‘Rule-Based Logic Module’ containing the claimed virtual thematic environment rules to coordinate actions to be taken.” Pet. 21 (citing Ex. 1007, 35:20–36:1). Petitioner argues specifically that “Pisanich further discloses that an ‘application module generates simulated real world constructs responsive to the real world information’ into the virtual world environment.” *Id.* quoting Ex. 1007, 3:3–4).

Patent Owner argues that “Petitioner offers no argument or evidentiary support for the claim that the ‘Rules-Based Logic Module’ discloses a “thematic/publishing logic module.” Prelim. Resp. 23. Patent Owner argues further that even if the first assertion is true, “Petitioner still fails to show that said module is ‘in one of the client or the server system.’” *Id.* at 24.

Neither party provides a specific claim construction for “a thematic/publishing logic module.” The specification of the ’165 patent describes that “[o]n the server side, the QIE 211 interacts with the Business Logic 208, Digital Content Library 209, [and] Thematic/ Publishing Logic 206.” Ex. 1001, 16:4–6. The ’165 patent explains further that

[t]he Thematic/Publishing Logic 206 is the director of all previous components by working with a pre-defined (but modifiable) set of rules and events from objects, and coordinates further actions to be taken as to what will constitute the thematic environments.

*Id.* at 16:49–53. In context, the ’165 patent explains that Thematic/Publishing Logic 206 includes “environmental game rules” and takes data and, using the game rules, extrapolates an outcome that is

displayed, i.e., output in one form or another, to the user in the visual game environment in accordance with the rules. *Id.* at 16:46. Considering an example, the '165 patent describes that

[t]he thematic virtual world interacts with the sponsors at this layer. The Business Logic 208 collects content from the real world (i.e., content from the sponsor's websites, information on time, weather, late-breaking news, etc.) and injects this content into the thematic virtual world through the Thematic/Publishing Logic 206.

*Id.* at 18:1–6.

In a different example, but functionally and outcome-wise similar to the '165 patent sponsor example above, Pisanich describes that “[t]he rule-based logic module controls the actions of the psuedo aircraft in reaction to the changing state of the pseudo aircraft and the changing world around it.” Ex. 1007, 35:20–21. To illustrate, Pisanich describes “one rule reacting to the position of the aircraft would include the need to announce to the air traffic controller process 908 that the pseudo aircraft is within 50 miles of the airport and ready to land. This would also result in an audio message that would be heard by the player.” *Id.* at 36:3–6.

In both examples above, “[ ] logic module(s)” take certain input data and display or output it to the user in some for, e.g., visually, audibly, based, or dependent, on some predefined set of rules or logic. Considering the evidence before us at this point in the proceeding, we are persuaded based at least on the description and examples in Pisanich, that Petitioner has shown a reasonable likelihood that a person of ordinary skill in the art would have understood Pisanich's “Rule-Based Logic Module,” and the exemplary algorithms and embodiments at pages 35–38 of Pisanich, are positively

correlated to the claimed “thematic/publishing logic module” of limitation 1[c].

5. 1[d] “*providing a primary application in the client system;*”

Petitioner argues that “Pisanich discloses a primary application, e.g., an electronic game, which is theme-based and provides a theme-based virtual world environment . . . to be played on a computer.” Pet. 21–22 (Ex.1004 ¶¶ 136–37). Patent Owner does not provide a substantive rebuttal or arguments with respect to limitation 1[d]. Prelim. Resp. 25.

Mr. Crane’s testifies that “Pisanich taught the claimed **primary application** in the form of a game system that provided a virtual thematic environment such as a flight simulator.” Ex. 1004 ¶ 136. Mr. Crane testifies further that “[t]errain, weather, and air traffic information for the flight simulator was served from the server component of the game system.” *Id.* Based on the record before us, we are persuaded that Petitioner has shown a reasonable likelihood that an ordinary skilled artisan would have considered Pisanich to teach or disclose the limitations of 1[d], where, as Mr. Crane explains, the “primary application was a client/server game application, a portion of which was located in the **client system** . . . as embodied in the ‘Game 112.’” *Id.*

6. 1[e] “*providing a first user interface that is associated with the primary application;*”

Petitioner argues that a user interface for an aircraft simulator game is provided by Pisanich by “rendering engine 316 provid[ing] a first user interface to the user to access the game.” Pet. 22 (citing Ex. 1007, 16:10–11). Patent Owner does not provide a substantive rebuttal or arguments with respect to limitation 1[e]. Prelim. Resp. 25.

Mr. Crane provides un rebutted testimony that “[t]he flight simulator game (**primary application**) disclosed by Pisanich was well known in the art to be operable through a GUI interface.” Ex. 1004 ¶ 138; *see also id.* ¶ 74 (Mr. Crane testifying by way of background that “[t]he display of a Flight Simulator game (although adjustable to different viewpoints) typically represented the pilot’s view, divided into a cockpit containing necessary gauges and readouts, and a view out the canopy to a 3D rendered virtual environment.”). On this record we are persuaded that Petitioner has shown a reasonable likelihood that Pisanich discloses or teaches “a first user interface that is associated with the primary application” as recited in limitation 1[e].

7. *1[f] “sending a request for first real-time information via the QIE module to the world wide web”*

Petitioner argues that “Pisanich discloses that game data server 108 receives, interprets, and manipulates real world information in real time so as to be accessible on different types of devices that may send request for it for use within the game.” Pet. 22 (citing Ex. 1007, 5:13–15). Petitioner asserts that “a POSITA would have understood that to access information over the Internet required **sending a request** as claimed.” *Id.* at 23 (citing Ex. 1004 ¶ 141). In support, referring to annotated Figure 1, below, Mr. Crane testifies that “[a] POSITA would understand that when communicating between a game and a server (or other remote players), there is a communication channel that sends requests and receives responses as illustrated by the annotated Figure 1 reproduced below.” Ex. 1004 ¶ 141.

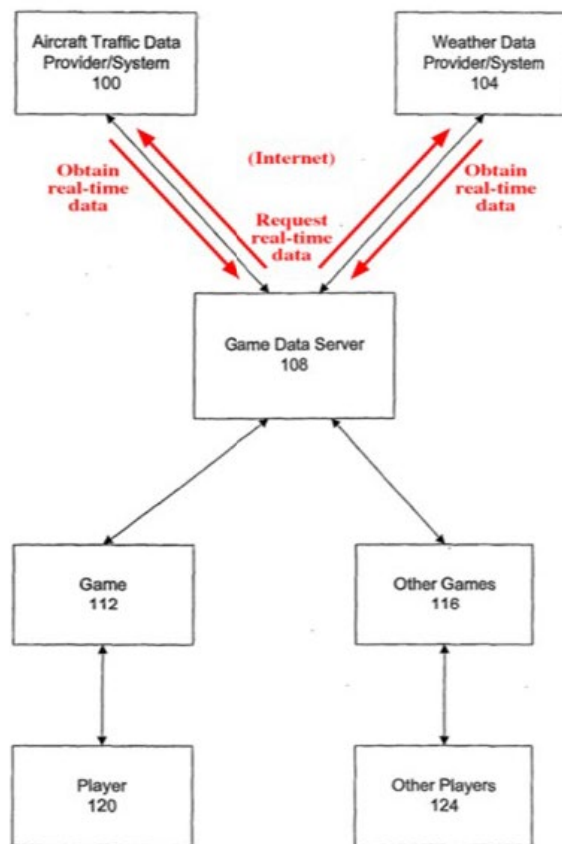


Figure 1 (Annotated)

Figure 1 of Pisanich is annotated by Mr. Crane to emphasize the nature of request and response communication pathways from game data server 108 to aircraft traffic data provider/system 100 and weather data provider/system 104 over the Internet. *Id.*

Patent Owner argues that “Petitioner fails to show that Pisanich discloses the remaining elements of limitation 1[f], including ‘sending a request’ and doing so ‘to the world wide web.’” Prelim. Resp. 26. We do not agree with this premise because Petitioner has equated at least game data server 108 with the QIE. As shown in Figure 1, above, game data server 108 illustrates a two-way arrow to external data providers 100, 104, indicating a real time data request, and a corresponding answer from

external data providers 100, 104. We keep in mind that this is a method claim, reciting “[a] method of integrating real-time information into a virtual thematic environment using a computer system including a client and a server, comprising . . . sending a request . . . to the world wide web.” Ex. 1001, 33:37–39. On this record, we find Petitioner’s position more persuasive, namely that functionally speaking, game data server 108 requests and receives real-time data from external data providers on the world wide web. *See, e.g.*, Ex. 1007, 5:16–17 (Pisanich explaining that “[t]he data providers 100, 104 are located remotely and are typically accessed via the internet or through some other communications means (such as a satellite, or a leased line)”); *see also* Ex. 1004 ¶ 141 (Mr. Crane testifying that “a POSITA would further have understood that receiving or downloading information from a server connected to the internet achieved the same predictable result of receiving or downloading information from the World Wide Web.”)

8. *1[g] “obtaining the first real-time information via the world wide web”*

Petitioner mainly refers back to its arguments and evidence with respect to limitation 1[f], while contending that “Pisanich further discloses obtaining weather information for a specific location from the Internet, which a POSITA would have understood included obtaining the information.” Pet. 24 (citing Ex. 1004 ¶¶ 143–44).

Patent Owner points out that where “claim 1[f] requires ‘sending’ a request for first real-time information, whereas claim 1[g] requires ‘obtaining’ the first real-time information.” Prelim. Resp. 28.

On this record we find Petitioner’s position persuasive, specifically that where the claimed method is sending a “request” to a server or location

on the internet or world wide web, it would logically receive, or obtain, a response, i.e., the requested information or data, from the server or location on the internet or world wide web. Accordingly, on this record we are persuaded that Petitioner has shown a reasonable likelihood that Pisanich discloses or teaches “obtaining the first real-time information via the world wide web” as recited in limitation 1[g].

9. *1[h] “downloading the first real-time information from the world wide web into the primary application”*

Petitioner argues similar to, or the same as limitation 1[g], “that ‘Game Data Server 108’ gathered and cached real-time air traffic and weather data, *i.e.*, the first real-time information, to be downloaded to Game 112.” Pet. 24 (citing Ex. 1007, 5:13–15; Ex. 1004 ¶¶ 145–46).

Patent Owner argues that Pisanich’s game data server 108 that “continually gathers ‘real time’ data from traffic 100 and a weather 104 data provider systems,” and “permits data available to a game 112, 116 and players 120, 124,” does not equate to “downloading the first real-time information from the world wide web into the primary application,” as required by claim 1[h]. Prelim. Resp. 30. Patent Owner contends that “particularly, Petitioner offers no argument or evidence to support the assertion that ‘permit[ting]’ access to information discloses ‘downloading’ information.” *Id.* at 30.

We agree to an extent, that Pisanich does not describe expressly “downloading” the external data from traffic 100 and weather 104 data provider systems. But this appears to be perhaps a matter of semantics. For example, Pisanich describes “[t]ransferring a ‘snapshot’ of the data from the providers 100, 104 to the game data server.” Ex. 1007, 5:21–22. Further, Pisanich explains that “[t]he game data server 108 processes the data

requests of the game 112 and provides data requested to the game 112 for rendering and simulation within the game 112.” *Id.* at 7:5–7. In context, it is not unreasonable that a person of ordinary skill in the art might understand these passages as “downloading a snapshot’ of the data . . .” because a download is simply a type of data transfer.<sup>6</sup> Consistent with this definition, Mr. Crane testifies that Pisanich teaches “real-time information was gathered from the world wide web, cached in the game server, and made available to be downloaded to a game.” Ex. 1004 ¶ 145. Mr. Crane’s testimony is the only declarant testimony available on this point at this stage of the proceeding.

On this record, we find persuasive Petitioner’s arguments and evidence including Mr. Crane’s testimony that there is a reasonable likelihood that an ordinary skilled artisan would have understood Pisanich to teach “downloading the first real-time information from the world wide web into the primary application” as called for in limitation 1[h].

10. *1[i] providing access to the first real-time information within the virtual thematic environment via the first user interface;*

Petitioner relies mainly on, and specifically references its arguments pertaining to limitations 1[f] and 1[g]. Pet. 24. Patent Owner does not substantively address Petitioner’s position with respect to limitation 1[i]. Prelim. Resp. 30.

Based on the record before us and for the reasons provided by Petitioner with respect to limitations 1[f] and 1[g] we are persuaded that

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<sup>6</sup> The Microsoft Computer Dictionary, 5<sup>th</sup> Ed., (2002), defines a “download *vb.* **1.** In communications, to transfer a copy of a file from a remote computer to the requesting computer by means of a modem or network.” (Ex. 3001, 175).



Petitioner has shown a reasonable likelihood that an ordinary skilled artisan would have considered Pisanich to teach or disclose claim limitation 1[i].

11. 1[j] “*providing at least one secondary application within the primary application at the client system;*”

Petitioner argues that “[a]s shown by Figure 3 . . . there are multiple ‘managers’ or ‘engines’, i.e., secondary applications, such as the audio engine 336, that are within the primary application, i.e., game 112.” Pet. 25. Petitioner asserts that these engines “receive real-time information from, e.g., the Air Traffic Database Update Process 216 and/or Weather Database Update Process 220,” and that “[c]ontent from the secondary application, e.g., audio messages heard while playing in the form of communications from Air Traffic Control, is integrated into the primary application.” *Id.*

Patent Owner argues that “even if the various ‘managers’ or ‘engines’ of Pisanich disclose a ‘secondary application,’ Petitioner does not show that said ‘secondary application’ is ‘*within* the primary application.” Prelim. Resp. 32. Patent Owner also disagrees with Petitioner’s assertion “that [t]he concept of having a secondary application **integrated** with a primary application would have been well known to a POSITA as merely one of a variety of ways to program software **to accomplish substantially the same functionality.**” *Id.* (quoting Pet. 25). Patent Owner argues specifically that “neither Petitioner nor Mr. Crane offers any argument or evidence to suggest that ‘a secondary application **integrated** with a primary application’ discloses a ‘secondary application **within** the primary application,’ as required by claim 1[j].” *Id.*

Because the claim does not specifically tell us what a “secondary application” is, we look to specification of the ’165 patent. We do not find in the specification a literal reference to “secondary applications.” *See*

*generally* Ex. 1001. The specification does, however, expressly describe “other applications which integrate audio and video into the virtual thematic environment.” *Id.* at 9:2. For example, the specification further describes an embodiment where “the user may be able to select audio channels (i.e., radio, talk radio, music channels etc.) to listen to while accessing and using the thematic application.” *Id.* at 34:23–25.

With respect to claim construction, in *Niantic* the District Court determined that a “secondary application” is a “secondary computer program within the primary computer program.” In line with this construction and the audio application, Pisanich describes that “traffic manager 300 maintains an internal database of the real-time traffic in the world that the user experiences.” Ex. 1007, 10:9–10. As discussed above, a database is a computer program, and Pisanich explains that the traffic manager 300 “simulates the communications of air traffic *within the game world*, based on real time data. The external realization of this is through communications commands that are sent to the audio engine 336. The audio engine 336 uses these commands to output realistic audio communications messages.” Ex. 1007, 10:20–23 (emphasis added). In support, Mr. Crane testifies that secondary applications within a primary application were well known and that “a POSITA seeking to add a particular functionality to an existing application would have the option of adding that functionality to the primary application or alternately incorporating the functionality in a secondary application.” Ex. 1004 ¶ 149.

On this record, we find persuasive Petitioner’s arguments and evidence, including Mr. Crane’s testimony, that there is a reasonable likelihood that an ordinary skilled artisan would have understood Pisanich to

teach “providing at least one secondary application within the primary application at the client system” as called for in limitation 1[j].

12. 1[k] “*sending a request for second real-time information via the QIE module*”

Petitioner references its discussion for element 1[f] where “Pisanich discloses that game data server 108 receives, interprets, and manipulates real world information in real time.” Pet. 22. Petitioner argues that “the second real-time information supplied into the game can be the real-time communication messages exchanged between the air traffic controller (ATC) and the player of the game.” *Id.* at 26. Petitioner asserts that “the player can access such real-time communication messages via an audio engine.” *Id.* (citing Ex. 1007, 10:20–11:3). Mr. Crane testifies also that “a POSITA would have understood that accessing information from a remote data provider required sending a request.” Ex. 1004 ¶ 152.

Patent Owner mainly disputes “the Crane Declaration, which simply recites the same statement verbatim without any additional support or reference.” Prelim. Resp. 33 (citing Pet. 27). However, Mr. Crane has explained in his declaration how Pisanich’s Figure 1 for instance, shows that a person of ordinary skill in the art would have understood game data server 106 as requesting and obtaining real-time data from, for example aircraft traffic data system 100 and weather data system 104. Mr. Crane’s testimony, on this record, is unrebutted and fairly comports with Pisanich’s disclosure, in particular Figure 1. Patent Owner may offer its own testimony and cross-examine Mr. Crane during trial.

On this record, we find persuasive Petitioner’s arguments and evidence, including Mr. Crane’s testimony, that there is a reasonable likelihood that an ordinary skilled artisan would have understood Pisanich to

teach “sending a request for second real-time information via the QIE module” as called for in limitation 1[k].

13. *1[l] “obtaining the second real-time information via the world wide web”*

Petitioner argues that “a POSITA would have understood that accessing information from a remote data provider included obtaining second real-time information.” Pet. 27 (citing Ex. 1004 ¶¶ 154–56). Mr. Crane testifies that “Pisanich taught obtaining real time audio communications between the player and the ATC (the claimed **second real-time information**) for a specific location from a remote data provider.” Ex. 1004 ¶ 154. Patent Owner does not expressly dispute this position or offer a counter argument. Prelim. Resp. 34.

On this record, we find persuasive Petitioner’s arguments and evidence, including Mr. Crane’s testimony, that there is a reasonable likelihood that an ordinary skilled artisan would have understood Pisanich to disclose receiving real-time audio communications and thus “obtaining the second real-time information via the world wide web” as called for in limitation 1[l].

14. *1[m] downloading the second real-time information into the secondary application;*

Petitioner refers specifically to its arguments with respect to limitations 1[j] and 1[k]. Pet. 27 (citing Ex. 1004 ¶¶ 157–158). Mr. Crane testifies for limitation 1[m] that Pisanich teaches that “real-time information was gathered from the world wide web, cached in the game server, and made available to be downloaded to a game.” Ex. 1004 ¶ 157. Patent Owner does not expressly dispute this testimony or offer a counter argument. Prelim. Resp. 34.

On this record, we find persuasive Petitioner’s arguments and evidence, including Mr. Crane’s testimony, that there is a reasonable likelihood that an ordinary skilled artisan would have understood Pisanich to disclose receiving real-time audio communications, for example, and thus permitting “downloading the second real-time information into the secondary application” as called for in limitation 1[m].

15. 1[n] “enabling a user to access the at least one secondary application through the first user interface;”

Petitioner argues that “Pisanich further discloses the location of a player’s aircraft was controlled through the first user interface, which required access of the ‘managers’ and ‘engines’, such as ‘Traffic Manager 300,’ *i.e.*, one of the secondary applications.” Pet. 27. Mr. Crane testifies that in Pisanich “the user of the exemplary Flight Simulator game controlled his or her aircraft through the game’s GUI (the **claimed first user interface**) whereby ‘choices and control inputs by the player’ determined ‘where and how the player 120 is flying the plane.’” Ex. 1004 ¶ 159.

Patent Owner argues specifically that “Petitioner provides no argument or supporting evidence to show that *a user* is enabled to access the secondary application, and not, for example, another “secondary application.” Prelim. Resp 34–35. Patent Owner argues further that “Petitioner previously claimed that the second user interface was provided by ‘rendering engine 316,’ but makes no reference to ‘rendering engine 316’ in its analysis of claim 1[n]. As such, Petitioner fails to show, at least, that a user accesses a secondary application ‘through the first user interface,’ as required by claim 1[n].” *Id.* at 35.

We find more persuasive Petitioner’s arguments and Mr. Crane’s explanation that a secondary application is one of the “managers” and

“engines,” for example, Traffic Manager 100 and Weather Manager 304. These are “applications,” as discussed above, because they include computer programs in the form of traffic and weather databases 200, 204. Ex. 1007, 8:17. Pisanich explains that “[t]he requests for data by the game 112 are created in response to choices and control inputs by the player 120, e.g., where and how the player 120 is flying a plane in a flight-simulation application.” *Id.* at 8:13–15. Thus, the user, i.e. player 120, controls the aircraft by certain “choices and control inputs” through the GUI which generates corresponding requests for data from these secondary applications. Pisanich explains that based on the requests “the game 112 processes subsets of the larger databases 200, 204 that describe the data (weather or aircraft) that the game aircraft may encounter but filtered to relate the aircraft’s position or route.” *Id.* at 9:11–13.

16. *1[o] enabling the user to control the at least one secondary application through a second user interface.*

Petitioner argues that “Pisanich discloses using the ‘Traffic Manager 300’ *i.e.*, one of the secondary application[s], to load the air traffic information surrounding a specific location selected by the player using the second user interface.” Pet. 28. For selection of the location Pisanich describes a second user interface where

[i]n a software product embodiment, an application module receives a **location selection from a player**. The location selection selects a geographic location within which the game is to take place, for example, San Francisco. The application module then retrieves real world information.

Ex. 1007, 2:18–22. In other words, using the *second interface*, where the player inputs or selects to fly the aircraft, that geographic location controls what data is loaded or accessed in the *secondary application*, such as Traffic

Manager 300. As Mr. Crane testifies, “[b]ased on player aircraft type, state and position received from the player control/game state process 328, **the traffic manager 300 requests traffic data from the game data server 108 that will be within a predefined geographic area** around the player’s aircraft’ . . . [s]uch information is then utilized to access the real time audio communications between the [p]layer and the ATC.” Ex. 1004 ¶ 163 (quoting Ex. 1007, 10:20–11:3).

With respect to such communications, Pisanich explains further that based on the player’s control of the aircraft

[t]he traffic manager 300 also simulates the communications of air traffic within the game world, based on real time data. The external realization of this is through communications commands that are sent to the audio engine 336. The audio engine 336 uses these commands to output realistic audio communications messages to the user (for example, voice communications from air traffic control (ATC) and aircraft) based on the state of the player and other aircraft in the game.

Ex. 1007, 1027–11:2.

Patent Owner does not expressly dispute this testimony or offer a counter argument. Prelim. Resp. 35.

On this record, we find persuasive Petitioner’s arguments and evidence, including Mr. Crane’s testimony, that there is a reasonable likelihood that an ordinary skilled artisan would have understood Pisanich to teach “enabling the user to control the at least one secondary application through a second user interface” as called for in limitation 1[o].

#### *17. Conclusion as to claim 1*

Based on the complete record before us and for the reasons expressed above, we are persuaded that Petitioner has shown a reasonable likelihood that claim 1 would have been obvious over Pisanich.

18. *Independent Claim 18*

Independent claim 18 is similar to claim 1, including most of the same limitations, but rather than an express method, recites “[a] computer system . . . comprising: at least one non-transitory memory device containing at least one program.” Ex. 1001, 45:21–25.

Petitioner argues that “claims 28–33 of Pisanich cover a ‘computer readable medium for integrating real world data into a game, the computer readable medium storing instructions to cause a processor to’ perform various interactions with a player of the game.” Pet. 35 (citing Ex. 1007, 54–56). Apart from this, Petitioner mainly incorporates by reference its prior arguments with respect to the limitations in claim 1 as they apply to the same and similar limitations in claim 18. *Id.* at 35–37. Patent Owner rebukes Petitioner for referencing its earlier analysis for claim 1 with respect to the limitations in claim 18. Patent Owner, however, does not specifically address the limitations of independent claim 18 either, arguing that “Patent Owner incorporates its remarks concerning Petitioner’s deficient analysis of claim 1 for the elements in claim 1 that correspond to claim 18.” Prelim. Resp. 36.

We have reviewed Petitioner’s evidence and argument as to claim 18 and, at this stage, we find it sufficient for institution. Pet. 34–37. Accordingly, we find that, on the current record, Petitioner has shown a reasonable likelihood of prevailing in showing that independent claim 18 would have been obvious over Pisanich.

19. *Claims 2–3, 5–8, and 10–12.*

As discussed above, Petitioner has sufficiently demonstrated that the information presented in the Petition renders obvious at least claim 1, and



we institute on all challenges raised in the Petition. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”); 37 C.F.R. § 42.108(a) (“When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”).

At this stage of the proceeding, Patent Owner does not raise any arguments regarding these claims beside the arguments considered above with respect to claims 1 and 18. We have reviewed Petitioner’s evidence and argument and, at this stage, we find it sufficient for institution. Accordingly, we find that, on the current record, Petitioner has shown a reasonable likelihood of prevailing in showing that claims 1–3, 5–8, and 10–12, would have been obvious over Pisanich.

*E. Ground 2: Claims 1–3, 5–8, 10–12, and 18 – Obviousness over PSO Manual*

Petitioner contends that the PSO Manual, in view of the knowledge of a person having ordinary skill in the art, teaches or suggests each limitation of claims 1–3, 5–8, 10–12, and 18. Pet. 37–59. As discussed above, Petitioner has sufficiently demonstrated that the information presented in the Petition renders obvious claim 1, and we institute on all challenges raised in the Petition. *See SAS Inst., Inc.*, 138 S. Ct. 1348, 1354, 1359–60 (2018); 37 C.F.R. § 42.108(a).

We offer some preliminary thoughts on Patent Owner’s arguments regarding this ground. First, we find that Petitioner has shown sufficient circumstantial evidence to establish a reasonable likelihood of prevailing on

its contention that the PSO Manual was publicly accessible. *See* Pet. 37–40. Second, we disagree with Patent Owner’s contentions that Petitioner failed to address certain limitations. Prelim. Resp. 42–44. Instead, we find that Petitioner provided a limitation-by-limitation analysis required by the rules. By way of example, and with respect to Patent Owner’s arguments regarding limitation 1[a], we disagree that Petitioner failed to specify “which, if any, element of the *Phantasy Star Online* game teaches the limitation of a ‘GUI module.’” Prelim. Resp. 45–46; *see* Pet. 42–43; *see also* Ex. 1008 10–12 (PSO Manual describing that “[w]henver you connect to the network via the ONLINE mode, the SHIP selections window will appear. Consider this screen to be your gateway into PSO.”) At this stage of the proceeding we disagree that the Petition or Mr. Crane’s testimony is conclusory. *See, e.g.*, Ex. 1004 ¶ 103. Instead, we find the arguments and testimony sufficient to explain why the PSO manual discloses a GUI module, given the relatively straight-forward subject matter of video games and online networking. However, Patent Owner will be free to cross examine Mr. Crane during trial. As for Patent Owner’s arguments regarding limitation 1[b], we disagree with Patent Owner’s contention that Petitioner has failed to show that the PSO Manual teaches a “QIE module” that receives, interprets, and manipulates content “so as to be accessible on different types of devices for use within the virtual thematic environment.” Prelim. Resp. 49–50. As the Petition explains, the PSO Manual “disclosed that players could play online with ‘people from all over the world,’ on different devices.” Pet. 44 (citing Ex. 1008, 2). Also, Petitioner explains that PSO Manual teaches a network structure that receives player input and manipulates players via “transporter”

or “organize team.” *Id.* at 45 (citing Ex. 1008, 9. We find this sufficient, on this record, to account for this limitation.

As for the remaining limitations 1[c]–[o], we are persuaded by Petitioner’s arguments and evidence including Mr. Crane’s testimony that the PSO Manual teaches or discloses, in view of the knowledge of a person of ordinary skill in the art, these remaining elements of claim 1. These are only preliminary observations on the current record. The parties will be able to further develop the record regarding this ground during trial.

#### IV. DISCRETION UNDER 35 U.S.C. § 314(A)

Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 314(a) to deny the Petition. Prelim. Resp. 54–63. Section 314(a) states that

The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Under § 314(a), we have discretion to deny institution of an *inter partes* review. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016). We consider several factors when determining whether to deny institution under § 314(a) based on a parallel district court proceeding, specifically

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;

5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

*Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). We also consider “several clarifications” made by the Director of the United States Patent and Trademark Office (“USPTO”). See USPTO Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation, 2 (June 21, 2022), available at [https://www.uspto.gov/sites/default/files/documents/interim\\_proc\\_discretionary\\_denials\\_aia\\_parallel\\_district\\_court\\_litigation\\_memo\\_20220621\\_.pdf](https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf) (“Director’s Memo”).

1. *Factor 1 – Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted*

Under the first *Fintiv* factor, we consider “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.” *Fintiv*, Paper 11 at 6. Both parties indicate that no stay has been requested. Pet. 60; Prelim. Resp. 56. Also, neither party identifies any statements by the district court or other evidence that specifically address a stay of the Litigation pending this proceeding.

We decline to speculate based on the record in this case whether the district court would grant a stay of the Litigation. See *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) (“*Fintiv II*”). As a result, we determine that the first *Fintiv* factor is neutral.

2. *Factor 2 – Proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision*

Under the second *Fintiv* factor, we consider the “proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision.” *Fintiv*, Paper 11 at 6. Petitioner argues that “[i]t is . . . improper to assume that the district court will stick to the current trial schedule” of April 15, 2024. Pet. 67; *see also* Ex. 1010, 3 (providing a trial date of April 15, 2024<sup>7</sup>). Petitioner also argues that there is a pending motion to transfer the case from Waco to Austin, which would delay the trial date<sup>8</sup>. Pet. 67.

Patent Owner argues that “there is no evidence that the parties’ trial will be extended . . . past the statutory deadline for the” Final Written Decision in this matter. Prelim. Resp. 58. Patent Owner also provides specific statistics for patent trials in the Western District of Texas (25.4 months from complaint to trial) and patent cases in front of Judge Albright (24.7 months from complaint to trial). *Id.* at 59 n.5 (referencing Exhibits 2002 and 2003, which are from Lex Machina)<sup>9</sup>. The Complaint in the Litigation was filed June 3, 2022. Ex. 1006. As such, the available

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<sup>7</sup> April 15, 2024 is approximately 8 months prior to the statutory deadline for this proceeding.

<sup>8</sup> With respect to Petitioner’s motion to transfer the Litigation to Austin from Waco, we note that the motion has been granted and the case was transferred within the Western District of Texas from Waco to Austin, but the trial judge and schedule has remained unchanged. *See* Ex. 3002, 1–2.

<sup>9</sup> The United States Courts indicates that the median time from filing a complaint to trial in the Western District of Texas is 26.4 months. *See U.S. District Courts–Combined Civil and Criminal Federal Court Management Statistics* (June 30, 2023) (available at [fcms\\_na\\_distprofile0630.2023.pdf](https://www.uscourts.gov/fcms_na_distprofile0630.2023.pdf) (uscourts.gov)) (last visited November 27, 2023).

statistics would suggest a trial date between June 2024, and August 2024, or 4 to 6 months prior to the statutory deadline for a Final Written Description in this proceeding.

Significant to this factor, the latest proposed scheduling order in the Litigation has moved the trial date to August 5, 2024, or approximately 4 months before the Final Written Decision is due. *See Ex. 3003, 6.* This proposed date represents a four-month delay in the trial date as compared to the trial date the parties argued discretionary denial in the Petition and Preliminary Response.

In consideration of the above discussion, and particularly the latest proposed scheduling order, we determine that the second *Fintiv* factor weighs against discretionary denial of the Petition.

3. *Factor 3 – Investment in the parallel proceeding by the court and the parties*

Under the third *Fintiv* factor, we consider the “investment in the parallel proceeding by the court and the parties.” *Fintiv*, Paper 11 at 6. Petitioner argues that the Litigation is in the early stages and that a *Markman* hearing, scheduled for September 1, 2023, will not have a bearing on this *inter partes* review as Petitioner does not propose any constructions. Pet. 62.

Patent Owner argues that the District Court and the parties have invested significant time and resources in the Litigation. Prelim. Resp. 60. Patent Owner argues that, by the time we render an institution decision, the parties would have completed claim construction briefing and the court would have ruled on the transfer motion; the parties would have conducted a *Markman* hearing and the court would have provided its constructions; the

parties would have exchanged final infringement and invalidity contentions; and fact discovery would have closed. *Id.* at 60–61 (referencing Ex. 1010).

The latest proposed scheduling order demonstrates that fact discovery is still ongoing. *See* Ex. 3003, 5. Indeed, Patent Owner proposes fact discovery to not end until March 4, 2024. *Id.* Under Patent Owner’s proposal, expert discovery would extend through the end of April, 2024, and dispositive motions would not be due until May 13, 2024.

In consideration of the above discussion, we determine that the third *Fintiv* factor weighs against discretionary denial of the Petition. Significantly, under Patent Owner’s proposed revised schedule, significant trial activities remain after our institution decision is due.

4. *Factor 4 – Overlap between issues raised in the petition and in the parallel proceeding*

Under the fourth *Fintiv* factor, we consider the “overlap between issues raised in the petition and in the parallel proceeding.” *Fintiv*, Paper 11 at 6. Petitioner states that, by instituting trial, we would narrow issues in the Litigation. Pet. 62. Petitioner adds that “[t]o reduce overlap further, if the Board institutes [*inter partes* review] in this proceeding, Petitioner will cease asserting in the [r]elated [m]atter the prior art for the claims on which the [*inter partes* review] is instituted. *Id.* at 62–63 (citing *Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019- 01393, Paper 24 at 11–12 (PTAB June 16, 2020) (“*Sand Revolution II*”), and *Apple Inc. v. Maxell, Ltd.*, IPR2020-00204, Paper 11 at 15–17 (PTAB June 19, 2020)).

Patent Owner argues that Petitioner asserts invalidity over Pisanich and the PSO Manual in the Litigation. Prelim. Resp. 61. Patent Owner adds that the stipulation offered by Petitioner is not a *Sotera*-type stipulation,

characterizing Petitioner’s stipulation as “narrow.” *Id.* at 62. Patent Owner argues that instituting trial would not be an effective use of Board resources nor be an efficient alternative to district court litigation. *Id.* at 62–63.

We agree with Patent Owner that Petitioner provides a narrow stipulation. *Cf.* Director’s Memo, 7–8 (stating that the Board “will not discretionarily deny institution of an IPR or PGR in view of parallel district court litigation where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the *petition or any grounds that could have reasonably been raised in the petition*”); *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18–19 (PTAB Dec. 1, 2020) (precedential as to § II.A). Still, the provided stipulation does reduce concerns of overlapping issues. In comparison, in *Sand Revolution II*, the Board found that “this factor weighs marginally in favor of not exercising discretion to deny institution” when the petitioner stipulates not to pursue in district court the same grounds presented in its petition. *Sand Revolution II*, Paper 24 at 11–12. Thus, we determine that the fourth *Fintiv* factor weighs slightly against discretionary denial of the Petition.

5. *Factor 5 – Whether the petitioner and the defendant in the parallel proceeding are the same party*

Under the fifth *Fintiv* factor, we consider “whether the petitioner and the defendant in the parallel proceeding are the same party.” *Fintiv*, Paper 11 at 6. Here, Petitioner is the defendant in the Litigation. Pet. 63. Under the circumstances here, where a trial in the district court involving the same parties may begin prior to our Final Written Decision, we determine that the fifth *Fintiv* factor slightly favors discretionary denial of the Petition.



6. *Factor 6 – Other circumstances that impact the Board’s exercise of discretion, including the merits*

Petitioner argues that the ’028 patent has never been challenged before in a post-issuance proceeding. Pet. 63. Petitioner also argues that “[g]iven the strength of the challenge to patentability presented in this Petition, denying this [P]etition under § 314(a) would be unfairly prejudicial to Petitioner, and this factor weighs against discretionary denial.” *Id.* Patent Owner responds that its Preliminary Response identifies weaknesses in Petitioner’s challenges. Prelim. Resp. 63.

“[W]here the PTAB determines that the information presented at the institution stage presents a compelling unpatentability challenge, that determination alone demonstrates that the PTAB should not discretionarily deny institution under *Fintiv*.” Director’s Memo, 4–5. “Compelling, meritorious challenges are those in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” *Id.* at 4. As evident from our conclusion below, we need not determine if Petitioner’s challenges rise to the level of “compelling” challenges.

7. *Summary and conclusion*

Based on our holistic view of the *Fintiv* factors, we decline to exercise our discretion under § 314(a) to deny the Petition. As discussed above, only factor 5 weighs in favor of discretionary denial, factor 1 is neutral, and factors 2, 3, and 4 weigh, in varying degrees, against discretionary denial of institution, with factors 2 and 3 being the most compelling factors. Given that the trial date has already been delayed to just four months prior to the statutory deadline for a Final Written Decision in this case, and that the current proposed scheduling order pushes significant discovery efforts well

into 2024, the evidence of record does not favor exercising our discretion to deny institution of this *inter partes* review.

## V. CONCLUSION

After considering the arguments presented in the Petition, the Preliminary Response, and the evidence of record, we determine that Petitioner has demonstrated at least a reasonable likelihood of success in proving that at least one claim of the '165 patent is unpatentable. Thus, we institute an *inter partes* review of all challenged claims (i.e., claims 1–3, 5–8, 10–12, and 18) on all grounds set forth in the Petition. Our determinations at this stage of the proceeding are based on the evidentiary record currently before us. This decision to institute trial is not a final decision as to patentability of any claim for which we have instituted an *inter partes* review. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (noting that “there is a significant difference between a petitioner’s burden to establish a ‘reasonable likelihood of success’ at institution, and actually proving invalidity by a preponderance of the evidence at trial”). We will base any final decision on the full record developed during trial.

## VI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted for claims 1–3, 5–8, 10–12, and 18 of the '165 patent on the unpatentability grounds asserted in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which commences on the entry date of this decision.

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