

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.,
Petitioner,

v.

MULLEN INDUSTRIES LLC,
Patent Owner.

IPR2025-00745 (Patent 9,662,582 B2)
IPR2025-00746 (Patent 10,974,151 B2)

Before KEN B. BARRETT, JEFFREY S. SMITH, and
MIRIAM L. QUINN, *Administrative Patent Judges*.

QUINN, *Administrative Patent Judge*.

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

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I. INTRODUCTION

This Decision on Institution addresses two separate proceedings arising from the filing of petitions for *inter partes review* filed by Meta Platforms (“Petitioner”): IPR2025-00745 and IPR2025-00746.¹ The first Petition requests *inter partes review* of claims 1, 2, 11, and 13 of U.S. Patent No. 9,662,582 B2 (745 IPR, Ex. 1001, “the ’582 patent”). 745 Pet. 3 (745 IPR, Paper 2). In the second, the Petition challenges claims 1–3 of U.S. Patent No. 10,974,151 B2 (746 IPR, Ex. 1001, “the ’151 patent”). 746 Pet. 3 (746 IPR, Paper 2). Mullen Industries (“Patent Owner”) filed a Preliminary Response in each proceeding. 745 IPR, Paper 9; 746 IPR, Paper 10.

Before delving into the merits of the petitions, we note that the 745 IPR and the 746 IPR involve related patents. The ’582 and ’151 patents are a continuation of the same application, App. No. 10/932,536, and both of these patents have a common disclosure and recite claims with overlapping subject matter. The proceedings involve the same asserted prior art and similar grounds, present substantially the same expert testimony, and involve substantially similar analysis of the grounds and whether sufficient evidence has been presented for a reasonable likelihood of prevailing on at least one claim of each patent. Because the limitations recited in the challenged claims recite substantively similar subject matter, and given the overlap of

¹ The caption in this Decision identifies the two proceedings addressed in this Decision. We refer to each proceeding via a short name, the “745 IPR” and the “746 IPR”, respectively, and the exhibits filed in each are identified similarly. e.g., the petition filed in the 745 IPR is identified (or cited to) as follows: “745 Petition” or “745 Pet”.

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evidence across both proceedings, we issue a single Decision on Institution that addresses both proceedings because it is more efficient and promotes consistency across proceedings. These proceedings are not consolidated, however. Therefore, the parties are not authorized to file combined filings for these proceedings or utilize the combined caption in any of their filings.

We determine Petitioner has satisfied the threshold requirement set forth in 35 U.S.C. § 314(a). Because Petitioner has demonstrated a reasonable likelihood that at least one claim of the '582 patent and at least one claim of the '151 patent are unpatentable, we institute an *inter partes* review of all challenged claims based on all grounds raised in the instant Petitions. 37 C.F.R. § 42.108(a).

II. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies itself (Meta Platforms, Inc.) as a real party-in-interest. 745 Pet. 1; 746 Pet. 1. Patent Owner identifies itself (Mullen Industries) as the real party-in-interest. 745 IPR, Paper 7; 746 IPR, Paper 7.

B. *The Patents*

The '582 and '151 patents have the same disclosure and thus, for simplicity, the summary below cites only to the '582 patent specification filed in the 745 IPR. The patent “relates to video games and video game systems.” 745 IPR, Ex. 1001, 1:22–23. For example, the patent describes “an actuality game” as “a location-based game where a user’s location on a physical playfield corresponds to a video game character’s location on a virtual video game playfield.” *Id.* at 2:33–36. One embodiment describes playing a virtual game of PACMAN as a multiplayer game in which the starting location of each user may be utilized as a point of reference for the

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game. *Id.* at 3:22–27. Any device with a locating device and a display may be programmed to be at least a visible environment game system, such as a wireless telephone with a Global Positioning System (GPS). *Id.* at 3:43–46. Control of the game is provided by changing the location of the wireless device. *Id.* at 3:51–53. “Additional manual controls may be provided to increase the functionality of a game system of the present invention,” such as buttons and/or joysticks. *Id.* at 4:41–44. A character may be controlled either by a program or by a player. *Id.* at 12:52–53.

C. Illustrative Claims

Petitioner challenges two independent claims of the ’582 patent (claims 1 and 2). Challenged claim 1 of the ’582 patent is illustrative and recites:

1. A non-transitory computer-readable medium having program logic provided thereon for providing a location-based game comprising:
 - a virtual playfield;
 - a first character, wherein the location of said first character in said virtual playfield is displayed on a display and is determined utilizing a first control signal from a first locating device that is based, at least in part, on a physical location determined by said first locating device; and
 - a second character, wherein said second character is computer controlled via artificial intelligence and said artificial intelligence utilizes said first control signal from said first locating device for controlling, at least in part, said second character; and
 - an impenetrable object, wherein said first locating device is operable to travel through a physical location that correlates to a virtual location of said impenetrable object on said virtual playfield, and said first character

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is impacted when said first character contacts said impenetrable object.

745 IPR, Ex. 1001, 23:61–24:15.

Claim 1 of the '151 patent recites:

A system comprising:
a wireless telephone having a locating device and a display, wherein a location-based video game is operable to be played on said wireless telephone, first location-based control signals are operable to be utilized, at least in part, to control a location-based video game character in said location-based video game, a manual control is operable to cause said location-based video game character to perform an action, said location-based video game character is operable to be displayed on said display, a second video game character that is operable to be controlled via artificial intelligence, and is not controlled by manual-input, is operable to be displayed on said display, and said first location-based control signals are provided by said locating device, wherein said locating device includes an accelerometer.

746 IPR, Ex. 1001, 23:59–24:10.

D. Prior Art and Asserted Grounds

Petitioner asserts that certain claims of the '582 and '151 patent are unpatentable on the following grounds (745 Pet. 3; 746 Pet. 3):

The 745 IPR:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 12, 11, 13	103(a)	Levine ²

² US Patent Application Pub. No. US 2003/0177187 A1, published September 18, 2003. Ex. 1003 (“Levine”).

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The 746 IPR

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–3	103(a)	Levine

Petitioner additionally presents expert testimony supporting the above grounds: Declaration of Jeremy Cooperstock. 745 IPR, Ex. 1002 (“745 Cooperstock Decl.”); 746 IPR, Ex. 1002 (“746 Cooperstock Decl.”).

III. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill,

would have possessed a bachelor’s degree in electrical engineering, computer science, or similar field, with two years combined experience in designing and/or developing interactive location-based computer systems/software, such as video games or other simulations incorporating location information. A person could also have qualified as a person of ordinary skill in the art with some combination of (1) more formal education (such as a master’s of science degree) and less technical experience, or (2) less formal education and more technical or professional experience.

745 Pet. 4–5 (citing Ex. 1002 ¶¶ 21–25); 746 Pet. 4–5. Patent Owner does not propose a level of ordinary skill. As Petitioner’s description of a person of ordinary skill appears commensurate with the subject matter before us, we apply Petitioner’s definition for purposes of this Decision.

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B. Claim Interpretation

We interpret the challenged claims,

using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

37 C.F.R. § 42.100(b) (2022). We construe expressly only those claim terms that require analysis to determine whether to institute inter partes review.

See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc., 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”).

Neither party proposes a particular construction for any recited claim term. 745 Pet. 8; 746 Pet. 8; 745 Prelim. Resp. 7–8; 746 Prelim. Resp. 5–6.

C. Analysis of Petitioner’s Challenge of Independent Claims

Our analysis in this section focuses on the challenge to independent claims 1 and 2 of the ’582 patent and independent claim 1 of the ’151 patent. Petitioner alleges that Levine discloses, teaches, or suggests the limitations of these independent claims. 745 Pet. 9–57; 746 Pet. 9–55.

We have reviewed Petitioner’s challenge of unpatentability of the independent claims in light of Patent Owner’s arguments urging the Board to find fault with said challenge. We address now the points of contention raised by Patent Owner and our preliminary determination concerning those points.

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1. Whether Levine Teaches: “the location of said first character in said virtual playfield is displayed on a display” (Claims 1 and 2 of ’582 patent)

Claims 1 and 2 of the ’582 patent recite “providing a location-based game” in which the “location of said first character in said virtual playfield is displayed on a display.” 745 IPR, Ex. 1001, 23:62–63, 23:65–66, 24:17–18, 24:20–22. Petitioner presents an analysis of the recited “location-based game” as taking into consideration “the features and functions that a person of ordinary skill in the art would have understood and found obvious to be present in a game in Levine’s system, in view of Levine’s teachings.” 745 Pet. 11 (citing 745 Cooperstock Decl. ¶ 59). Petitioner states that “Levine broadly teaches a variety of features, functions, and components to be used in implementing a multiplayer online location-based game system.” *Id.* Petitioner lists these features, functions, and components, and among these are (1) the gaming example of a “monster character that players can ‘kill’” and (2) the “sniper” game “that is provided for ‘illustration’ and [is] reflected in Figures 45–47.” *Id.* at 11–12 (citing Ex. 1003 ¶¶ 556–558, 569–573, 656–666, 668–673, Figs. 45–47). According to Petitioner, “a person of ordinary skill in the art would have understood that features present in the ‘monster’ game may be implemented in the ‘sniper’ game and vice versa.” *Id.* at 12. And “combining two embodiments disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness.” *Id.* (citing *Boston Scientific Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009)).

Petitioner then goes on to describe how each of the examples of the “monster” and “sniper” games discloses a “location-based game.” 745 Pet.

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12–19. Petitioner explains how the “monster” game has a virtual playfield that corresponds to the Wall Street area in New York City and with characters whose moves around the city are reflected as moves in the virtual playfield. *Id.* at 25–26. For the “sniper” game, Petitioner likewise explains that Levine’s Locale regions constitute the playfield in which the characters (“sniper,” “victim,” and “bicyclist”) perform the activities and interact. *Id.* at 26–29. According to Petitioner, the claim’s “first character” is disclosed by Levine’s “avatar” that is controlled by a human user playing the game and that for the example of the “sniper” game, the location of each character in the game’s virtual playfield is displayed on a display. *Id.* at 30–32. Petitioner argues, among many examples of how the Locale is described, that Levine’s Figure 47 particularly shows the location of the “sniper” “avatar” (the claim’s “first character”) on the virtual playfield with respect to other characters of the game located in nearby areas. *Id.* at 34–35.

For the “monster” game, Petitioner argues that “a person of ordinary skill in the art would have understood and found it obvious that the location of each character in the ‘monster’ game would similarly be displayed.” 745 Pet. 35. According to Petitioner, because the “monster” game indicates proximity of a character (by playing audio sounds) and because characters “run away” from the “monster” and “kill” the monster, it would have been obvious “that the location of each character would be displayed so that the player could see the relative location of the character vis-à-vis the monster and other objects and characters that the character interacts with.” 745 Pet. 35 (citing Ex. 1003 ¶¶ 666, 670–672; 745 Cooperstock Decl. ¶ 83).

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We are persuaded by Petitioner’s showing at this juncture, that Levine teaches the “location-based game” by describing the use of Locales in the grid system to show the “virtual playfield” in which the games are played, and that the “first character” in Levine is an “avatar” controlled by a user as described by Petitioner and summarized above. We are also persuaded by Petitioner’s showing at this juncture (and as summarized above) that Levine teaches a “first character in said virtual playfield is displayed on a display” because in the example described as the “sniper” game, Levine renders a graphical representation (depicted in Figure 47) of the Locale in which the “sniper” is located and the relative position of other game characters in nearby areas. In addition, it is reasonable to conclude, based on the argument and evidence in the present record, that it would have been obvious to show the required location in the “monster” game given that the users roam around Wall Street with the objective of finding “monsters” to “kill” and as such, it would have been obvious to display, on whichever device users are using to play, the location of the “avatar” and the “monsters.” And currently there is no evidence in the record showing that displaying locations of the “avatars,” “monsters,” or any other character’s locations would have been uniquely challenging or difficult for one of ordinary skill in the art. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007)).

We address now Patent Owner’s contention that Levine does teach displaying the location of the first character on the display. According to Patent Owner, Levine only displays the character itself; but the location of the “actual character in the alleged virtual playfield is not displayed.” 745

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Prelim. Resp. 11. Patent Owner argues that the location of the character with respect to the Locale is not displayed, and the '582 patent explains that the display of a character's location in a game must correspond to the user's actual physical location, so the displayed location visually represents the character's position within a grid in the physical world. *Id.* at 12 (citing 745 IPR, Ex. 1001, 3:51–53, 3:57–60, 12:31–43, 12:57–60, 17:52–67, 18:4–9). We are not persuaded by Patent Owner's argument.

Petitioner specifically argues, and we agree, that Levine's "Locales can also correspond to real-world locations, so that the virtual playfield mirrors a real-world playfield in a certain geographic area." 745 Pet. 25 (citing 745 Cooperstock Decl. ¶ 75). Levine describes specifically that there is a synthetic environment created by game servers, and that its services and applications bridge real-life ("physical") entities, features, spaces, and events with those synthetic environments, logic and processes "based on relative position, motion and (real or virtual) orientation." Ex. 1003 ¶ 165. Levine describes as "crucial" that its software framework provide connectivity and maintain referential integrity between physical and synthetic entities. *Id.* ¶ 276. Levine refers to Locale's as representing "a place to establish a specific presence as part of the larger game universe." *Id.* ¶ 371. A Locale is an atomic unit of geography in the game world, and is defined in terms of world coordinates and its size varies according to the game design. *Id.* ¶¶ 372–374. For instance, Levine states that it is best to avoid sizes of Locales that are too small (room sized) or too large (metropolitan sized) or too congested about the periphery (park bounded by city streets). *Id.* ¶ 375. Preferably, a Locale is on the order of a few buildings or a city block with limitations on the ways in which traffic can logically enter or leave the

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region. *Id.* These descriptions do not support Patent Owner’s argument, such that when a Locale (or a portion of it) is displayed only the character occupying that space is displayed and not the location of that character within the Locale or with respect to a physical location.

Additional passages of how Levine tracks and renders the Locales further do not support Patent Owner’s contentions. We understand Levine to teach that each “avatar” (which Levine also describes as one of the four Server Things) has a POSITION (vector) that is used to move the “avatar” from Locale to Locale or within a Locale. *See e.g.*, Ex. 1003 ¶¶ 195–196 (describing server communication between “client” devices and how location data is integral to the Grid to allow “software agents to traverse physical terrains and physical entities such as people, buildings and vehicles to be represented in virtual worlds . . . inertial tracking can be used to track the location and orientation of players within system 100”), 224 (“associates a specific Thing representing the player with its most recent Locale []”), 225 (“every Avatar [] is a Thing”), 236 (defining “position” in the Things table as “where this object is located in the game world. Also provided are Velocity and Acceleration for rectilinear motion”), 379 (“as the client roams throughout the Grid, its embodiment can move out of one Locale and into another, as shown in FIG. 24”), Fig. 14 (depicting the POSITION vector as part of the “Thing Move” object). And when Levine displays the Locale of Record (which is the Locale in which the “avatar” is located), as shown in Figures 46 and 47, Levine depicts the “avatar,” in this case a “sniper,” rendered graphically with a position on the screen in the context of its Locale and adjacent Locales (“Locales of interest”), which are all part of the virtual playfield. Ex. 1003 ¶¶ 557 (“sniper standing inside the Locale of

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Record [] Box 4603 represents the sniper's region of presence"), 558 ("alternative representation of FIG. 46, focusing on how a user may be playing a game using a Palm Pilot, and what the user will see on his Palm Pilot."), Figs. 46–47. Indeed, when tracking a location of an "avatar," Levine describes an "embodiment of record," (Ex. 1003, ¶ 379, FIG. 45) transferred between borders of Locales as shown in Figure 50, shown below.

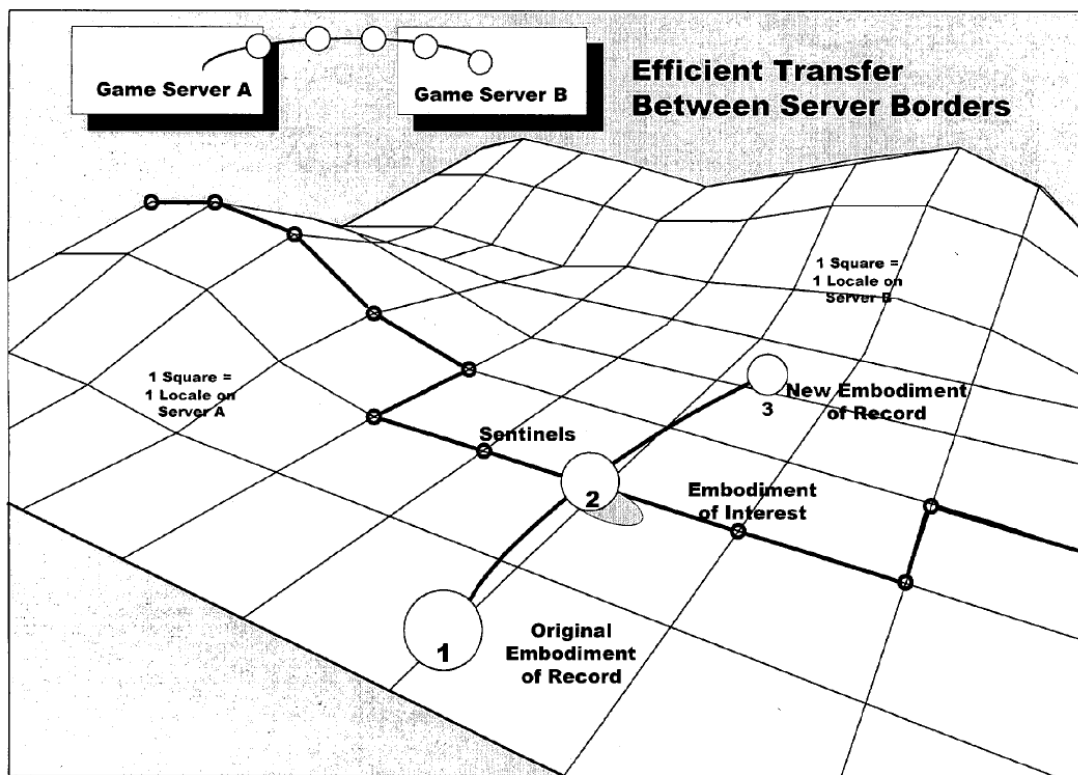


FIG. 50

Figure 50 of Levine above depicts the transfer of an Embodiment of Record between borders of Locales. Ex. 1003 ¶ 81. Each Locale in Figure 50 is a square, and as a player moves from one Locale to another, the information related to that user is maintained in the game server databases such that the Embodiment of Record will be positioned in the new Locale.

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Id. ¶¶ 562–563. Thus, we are persuaded at this juncture, that Levine displays a Locale in which an Embodiment of Record is located, and such a Locale is what is displayed on the Palm Pilot of Figure 47. That display shows the location of the “avatar” within a Locale, resulting in a virtual representation of the user’s physical position in the real world. Accordingly, arguments that no location of the first character is shown on the display are not persuasive at this juncture.

Patent Owner also separately argues that the “monster” game embodiment does not satisfy the claim requirement. 745 Prelim. Resp. 13. According to Patent Owner the “monster” game suffers from the same faults alleged with respect to the “sniper” game and the “monster” game is only a “message-based game.” *Id.* Only the laptop user would see a “monster,” Patent Owner argues, while the mobile user only interacts with the “monster” via messaging. *Id.* at 14–15. We are not persuaded by this argument either.

First, Patent Owner’s contentions are not commensurate with Petitioner’s challenge, which relies on the combination of features from the “sniper” and “monster” games, not in a specific game embodiment separately and independently from other games and features. Second, Petitioner relies on an obviousness theory concerning how it would have been obvious to a person of ordinary skill in the art to provide a visual representation of each player to others in the game. 745 Pet. 35. Third, the “monster” game example is not as limited as Patent Owner argues. Levine specifically states that “Grid system 100 ensures that the ‘monster’ character is properly rendered for each user utilizing a different type of client device 112.” Ex. 1003 ¶ 663. We note that Levine teaches that a wide-variety of

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devices could be used for playing the game and that the rendering, which we understand refers to the graphical display on the device, will be 3-dimensional and high resolution for computer-based platforms, but other less powerful devices would “require rendering that is consistent with their performance.” Ex. 1003 ¶ 299. The fact that the “monster” game is designed so that the laptop user can message a mobile user directly regarding the location of the “monster” does not mean that Levine cannot or does not render the “monster” characters on a “mobile user” device. The disclosure with regard to the Palm Pilot rendering suggests that Levine would render the “monster” on a PDA and there is no indication in Levine that a mobile phone client would not be able also to receive a rendering. *See e.g.*, Ex. 1003 ¶¶ 161 (“the present invention . . . allows mobile phones, wireless data devices, PDAs and the like, which are commonly owned by today’s consumers, to represent opportunities to where users can participate”), 666 (“synthetic representation of the ‘monster’ character would disappear from . . . mobile user’s client devices. Again, Grid system 100 would ensure that the ‘monster’ character’s death would be properly rendered (using the proper signal) for each player’s different type of client device.”).

Accordingly, we find Patent Owner’s arguments regarding claims 1 and 2 of the ’582 patent unpersuasive at this juncture. And we determine that Petitioner has shown sufficiently that Levine teaches or suggests the limitations recited in independent claims 1 and 2 of the ’582 patent.

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2. *Whether Levine Teaches: “operable to be played on said wireless telephone” (Claim 1 of the ’151 patent)*

Claim 1 of the ’151 patent recites a “a wireless telephone having a locating device and a display, wherein a location-based video game is operable to be played on said wireless telephone.” 746 IPR, Ex. 1001, 23:60–62. Without repeating the discussion above concerning the ’582 patent (claims 1 and 2), Petitioner proffers that the “location-based video game” of Levine is the combination of teachings comprising the features, functions, and components illustrated by the game examples. 746 IPR, Pet. 22–31. Petitioner explains that the “wireless telephone” of Levine would have been operable to participate in games because Levine specifically describes allowing such a device to access and use the grid. 746 IPR, Pet. 10–11 (citing Ex. 1003 ¶¶ 161, 187; 746 Cooperstock Decl. ¶¶ 58–59). Petitioner proffers further evidence of the knowledge that, by 2003, numerous wireless telephones had screens with varying sizes that were amply sufficient to display interactive games, such as to display multiple characters in Levine’s multi-player online game. *Id.* at 12 (citing 746 Cooperstock Decl. ¶ 61). Petitioner provides various examples of such mobile phones with displays depicting a variety of video games. *Id.* at 13–18.

Patent Owner challenges Petitioner’s assertions that a mobile telephone would have been operable to play the “location-based video game,” because, among several reasons, mobile telephones at the time could not display the “sniper” game. 746 Prelim. Resp. 9–10. According to Patent Owner, [i]f they had been able to, the inventors would have listed the mobile phone as an option for the playing the sniper game, just as it did for the

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lightweight, visual-free (for the mobile user) ‘monster’ game.” *Id.* at 10. Patent Owner also argues that it would not have been obvious to play the “sniper” game on a wireless telephone because the game “involves a detailed system of area-of-interest management, packet routing, and server-to-client communication infrastructure, all of which are tightly integrated with the gameplay logic and user experience.” *Id.* at 13 (citing Ex. 1003 ¶¶ 556–558, 569–573). Patent Owner takes issue with Petitioner’s allegation that Levine teaches cross-platform compatibility and counters that the argument does not focus on “porting gameplay systems or adapting server-client communication infrastructure to a wireless phone.” *Id.* That Levine provides uniformity in “rendering” “does not equate to gameplay operability, and the Petition provides no rational or technical explanation for how the ‘sniper’ game’s required multiplayer communication systems, server coordination, and user collision detection, all of which are necessary to display characters, could be implemented on a fundamentally different class of device with significantly more limited capabilities.” *Id.* at 14 (citing Ex. 1003 ¶¶ 556–558, 569–573).

At this juncture, we are not persuaded by Patent Owner’s arguments for three reasons. First, the arguments are not commensurate with the scope of the claim. The claim only requires that the “location-based video game” be “operable to played on said wireless telephone.” And Petitioner has shown sufficiently that Levine teaches the claimed “operability” because the system expressly describes at least one game (the “monster” game) as being played on a mobile phone, and another game (the “sniper” game) that would be played in any variety of client devices, one of them being a mobile phone.

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746 Pet. 31–32 (citing Ex. 1003 ¶¶ 187, 558, 657–658, 664; 746 Cooperstock Decl. ¶ 79). That Levine explains further how cross-platform delivery would be effectuated for various examples does not undermine Petitioner’s position that Levine contemplates mobile phones to play location-based video games. The level of operability that Patent Owner argues (when discussing server coordination or collision detection) is not a requirement of the claim. Nor does Patent Owner persuade us at this juncture that Levine restricts use of the mobile device to only games like the “monster” game.

Second, Patent Owner’s arguments argue the embodiments of Levine separately and independently, which disregards the actual contentions of Petitioner—what the combination of game features disclosed by Levine would suggest to a person of ordinary skill in the art. Just like one cannot establish non-obviousness by attacking references individually, *In re Keller*, 642 F.2d 413, 425 (CCPA 1981), neither can Patent Owner argue the “monster” game individually from the “sniper” game—because Petitioner relies on how a person of ordinary skill in the art would have understood the disclosed games and the features of cross-platform compatibility.

Third, to the extent Patent Owner’s arguments rely on an interpretation of Levine that restricts its disclosed technical operability on mobile phones, such arguments are not supported by Levine. Arguing that gameplay logic of the “sniper” game is not interchangeable with the mobile phone embodiment in the “monster” game (746 Prelim. Resp. 13), for example, without any supporting technical explanation, is insufficient at this juncture to undermine Petitioner’s evidence that Levine teaches how to implement a variety of video game features that would be accessed with a

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variety of client devices, including a mobile phone. 746 Pet. 31–33 (citing 746 Cooperstock Decl. ¶¶ 79–82). Furthermore, we are not persuaded at this juncture by Patent Owner’s assertion that “mobile phones of that era were extremely limited in terms of processing power, memory, battery life, graphics rendering capabilities, and network bandwidth.” See Prelim. Resp. 14–15. The Petition includes a lengthy explanation of the knowledge in the art that mobile phones had the capability to give a user access to games. 746 Pet. 12–19. Bare argument by Patent Owner to the contrary does not undermine Petitioner’s contentions on this issue because Petitioner’s arguments are supported by evidence of record.³

Accordingly, we are persuaded that Petitioner has shown sufficiently that Levine teaches or suggests the required operability of playing the “location-based video game” on the wireless telephone, as recited in claim 1 of the ’151 patent.

³ Patent Owner also contends that the Petition improperly relies on references not listed on the ground as supplying a missing limitation. 746 Prelim. Resp. 15. Petitioner, however, states that the supporting documentation of mobile phone displays that show multiple characters in a game is offered to show the general knowledge of a person of ordinary skill in the art regarding display sizes and how games were visualized on mobile phone screens prior to 2003. 746 Pet. 12. Accordingly, we see no issue here. “General knowledge may still be used in an IPR to support a motivation to combine or to demonstrate the knowledge of a person having ordinary skill in the art.” *Memorandum from Coke Morgan Stuart, “Enforcement and Non-Waiver of 37 C.F.R. § 42.104(B)(4) and Permissible Users of General Knowledge in Inter Partes Reviews,”* July 31, 2025,

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3. *Whether Levine Teaches: “location-based video game character” and “second video game character” (Claim 1 of the ’151 patent)*

Claim 1 of the ’151 patent requires a “location-based video game character” and “second video game character,” both of which are “operable to be displayed on said display.” 746 IPR, Ex. 1001, 23:64–65, 24:2–5, 7. Patent Owner argues that the “monster” game embodiment does not display any characters to the mobile user. 746 Prelim. Resp. 22. Patent Owner further argues that the mobile phone client device only receives messages and that any synthetic representation that Levine could provide is merely a message-based rendering, and thus, not a visual depiction of the “monster” or any other character. *Id.* at 23–24. We do not agree.

As discussed above in Section III.C.1., Levine at a minimum suggests that the “monster” *character* would be rendered on a mobile device, with a visual depiction. *See e.g.*, Ex. 1003 ¶¶ 161 (“the present invention . . . allows mobile phones, wireless data devices, PDAs and the like, which are commonly owned by today’s consumers, to represent opportunities to where users can participate”), 666 (“synthetic representation of the ‘monster’ character would disappear from . . . mobile user’s client devices. Again, Grid system 100 would ensure that the ‘monster’ character’s death would be properly rendered (using the proper signal) for each player’s different type of client device.”). Levine states that “[g]rid system 100 ensures that the ‘monster’ *character* is properly rendered for each user utilizing a different client device 112.” *Id.* ¶ 663. And the different client devices 112 are listed in Levine as including a mobile phone. *Id.* ¶ 187 (“External client devices 112 would include, for example, a mobile phone 112a”); Fig. 1.

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As for the “messaging” used in the “monster” game, we understand at this juncture that the capability of passing messages between devices is an additional feature of Levine’s interactivity, not a way to limit how a mobile device would render the objects in the game. *Id.* ¶ 296 (describing the Game Servers as providing the data streams to the end users, where the end-user devices perform the rendering of the environment and objects, ¶ 299 (describing rendering for less powerful devices), ¶ 300 (describing passing messages as an additional feature mediated by the Process Server).

Argument that the rendering in a mobile device would be only a message-based “rendering” are not supported by Levine. Furthermore, as already stated, Patent Owner’s arguments attack only a portion of Petitioner’s argument and evidence by focusing only on the “monster” game example, and not relying on other portions of Levine that suggest mobile telephones would render the “sniper” and other characters, as well as the “monster” and the user’s “avatar.” 746 Pet. 42–42 (citing Ex. 1003 ¶¶ 559, 571–572, 659, 675, Figs, 47, 48; 746 Cooperstock Decl. ¶¶ 97–102).

Accordingly, we are not persuaded by Patent Owner’s arguments that the Petition fails to show a reasonable likelihood of prevailing in showing that the recited “characters” are “operable to be displayed on said display.”

4. *Whether Levine teaches: “a manual control is operable to cause said location-based video game character to perform an action” (Claim 1 of the ’151 patent)*

Claim 1 of the ’151 patent requires “manual control” “operable to cause said location-based video game character to perform an action.” 746 IPR, Ex. 1001, 24:1–2. Petitioner asserts that Levine describes a button for a player’s avatar to perform an action, such as to “shoot” a monster

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character. 746 Pet. 39 (citing 746 Cooperstock Decl. ¶¶ 91–95). For instance, according to Petitioner, Levine describes an “interface space” with “buttons and menus” activated by the user to affect the “action space” of the character or avatar in the game. *Id.* (citing Ex. 1003 ¶ 676). Petitioner also points out that Levine describes manual control in the “monster” game by describing the user pressing *9999 on the mobile phone to perform the action of shooting and killing the monster. *Id.* (citing Ex. 1003 ¶ 666). Petitioner presents additional argument that it would have been obvious to a person of ordinary skill in the art to provide a manner of controlling the “sniper” to shoot the sniper’s rifle, because Levine already provides a manual control for other games, such as the “monster” in the monster game. *Id.* at 41 (citing Ex. 1003 ¶¶ 571–572; 746 Cooperstock Decl. ¶ 96). Petitioner relies on paragraph 252, among several disclosures in Levine, which describes the PROPERTY_VECTOR as an object state that “could represent the direction in which a game character’s gun is pointed.” *Id.* at 41–42 (citing Ex. 1003 ¶ 252; 746 Cooperstock Decl. ¶ 96).

Patent Owner disagrees with Petitioner’s assertions and posits that it would not have been obvious to manually control the “sniper” in Levine’s game because there is already another method of having the sniper shoot in the game—automatically triggered actions, such as collisions or visibility events. 746 Prelim. Resp. 26–27 (citing Ex. 1003 ¶¶ 556–558, 569–573). According to Patent Owner, “when the victim is in the proper area, the sniper shoots automatically.” *Id.* at 27. Patent Owner argues that being “in range” does not show that there is a way to control the sniper; rather, it supports the contention that Levine uses proximity to trigger certain actions

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automatically. *Id.* The PROPERTY_VECTOR, Patent Owner states. does not mean that the user can pull the trigger. *Id.* at 28. Patent Owner concludes “the fact that a user can control the sniper is not the issue: the user can move the sniper as discussed above, but that does not mean he or she can pull the trigger.” *Id.*

We are not persuaded by Patent Owner’s arguments. As stated in our summary of Petitioner’s contentions, Petitioner relies on what would have been obvious to a person of ordinary skill in the art given Levine’s programming architecture and providing a button or other interface for the avatar to perform an action in that game. It seems reasonable, at this juncture, that Levine’s teachings of various actions that characters of a game can take (picking up a sword, for example), combined with the teaching that a user can press *9999 to “kill” a monster, reasonably support that a person of ordinary skill in the art would use Levine’s teachings of a client interacting with a game object (by clicking a mouse, angling the joystick or pressing a trigger button) to provide a button to “shoot” the sniper’s rifle as argued by Petitioner. Ex. 1003 ¶¶ 211, 528, 659.

Furthermore, we are not persuaded by Patent Owner’s characterization of Levine as having no need for manual control of the “sniper” rifle. None of the passages of Levine that Patent Owner points to state that the actions by an avatar are automated. And even if some automation of actions were implemented in a game, Levine leaves it to the game designer to implement the set of rules on how the user’s actions would affect the state of the objects in the game. *See id.* ¶ 351. Accordingly, given the latitude of design options that Levine describes to interact with an avatar, Petitioner’s contention of using Levine’s interface space with buttons

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appears to be a reasonable and suitable option for playing Levine’s “sniper” game, and require the manual interaction with such a button to “shoot” the rifle.

5. *Conclusion as to Independent Claims*

Having reviewed the contentions Petitioner has presented, with supporting evidence, and in light of Patent Owner’s arguments made in the Preliminary Response, we determine that Petitioner has shown a reasonable likelihood of prevailing on its contentions of obviousness for claims 1 and 2 of the ’582 patent and claim 1 of the ’151 patent.

6. *Dependent Claims*

Petitioner contends that dependent claims 11 and 13 of the ’582 patent and claims 2 and 3 of the ’151 patent are unpatentable for obviousness based Levine. 745 Pet. 63–64; 746 Pet. 55–58. Patent Owner does not offer any specific arguments with respect to these claims. In reviewing the preliminary record, we find that Petitioner sufficiently shows that Levine teaches or suggests the limitations recited in these dependent claims, and demonstrates a reasonable likelihood of showing that these claims are unpatentable over the prior art.

IV. CONCLUSION

We conclude that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one claim of the ’582 patent challenged in the 745 Petition and at least one claim of the ’151 patent challenged in the 746 Petition. Accordingly, we institute a trial on all claims and all grounds asserted in these Petitions. The Board has not made a final determination under 35 U.S.C. § 318(a) with respect to the patentability of the challenged claims of each challenged patent.

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V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1, 2, 11, and 13 of the '582 patent is instituted with respect to all grounds set forth in the Petition in IPR2025-00745;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–3 of the '151 patent is instituted with respect to all grounds set forth in the Petition in IPR2025-00746; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '582 patent and the '151 patent shall commence on the entry date of this Decision in each proceeding, and notice is hereby given of the institution of a trial.

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