

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY INTERACTIVE ENTERTAINMENT LLC,
Petitioner,

v.

QUANTUM IMAGING LLC,
Patent Owner.

Case No. IPR2023-00995
Patent No. 10,846,941

PATENT OWNER'S RESPONSE TO PETITION
35 U.S.C. §316(a)(8), and 37 C.F.R. §42.120

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EXHIBIT LIST

Ex.	Description
2001	Petitioner's Preliminary Invalidity Contentions
2002	Memorandum from Katherine K. Vidal on Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (June 21, 2022)
2003	Lex Machina, Patent Cases (All Judges) Time to Trial, U.S. District Court for the Western District of Texas, September 9, 2023
2004	Lex Machina, Patent Cases (Judge Alan D. Albright) Time to Trial, U.S. District Court for the Western District of Texas, September 9, 2023
2005	Declaration of Dr. Nenad Medvidović
2006	"Software Architecture in Industrial Applications," Soni et al., International Conference on Computer Engineering 1995, Seattle, Washington, USA, published by the Association for Computing Machinery
2007	Merriam-Webster's Collegiate Dictionary 10th Edition, Merriam-Webster Incorporated, United States, 2001
2008	Microsoft Computer Dictionary, Copyright 2002, 5th edition, Microsoft Press, a Division of Microsoft Corporation, One Microsoft Way, Redmond Washington 98052-6399
2009	Not Filed
2010	Declaration of Marc A. Brockhaus.
2011	Transcript of Deposition of David Crane, Part 1, 02-26-2024.
2012	Transcript of Deposition of David Crane, Part 2, 02-29-2024.
2013	Transcript of Deposition of Alexander Harry, 02-27-2024.
2014	https://www.mobygames.com/game/3341/microsoft-flight-simulator-2000/screenshots/windows/351054/

I. INTRODUCTION

Pursuant to 37 C.F.R. §42.120, Patent Owner, Quantum Imaging, LLC (“Patent Owner”), submits this Patent Owner Response to Sony Interactive Entertainment LLC’s (“Petitioner”) June 5, 2023, Petition for Inter Partes Review of U.S. Patent No. 10,846,941 (the “’941 Patent”) challenging claims 1, 3, 5, 7–12, and 23-26 (the “challenged claims”) as allegedly obvious under 35 U.S.C. §103 over PCT Patent Publication No. WO02/062436 (“Pisanich”) in view of the knowledge of a person of ordinary skill in the art (“POSITA”) (Ground 1), and as being allegedly obvious over Phantasy Star Online Manual (“Manual”) in view of the knowledge of a POSITA (Ground 2).

According to Petitioner’s own declarant, Mr. David Crane (“Crane”), Patent Owner’s claimed Quantum Imaging Environment (“QIE Module”) is a major industry breakthrough—i.e., a “Holy Grail,” to wit:

If [Patent Owner] had managed to develop a universal translator that could change the game -- could present the game -- manipulate the data and present the game on any device, that would be game changing in the industry. It would be -- I called it the Holy Grail because I know that people are spending hundreds of millions of dollars trying to achieve that. But I would certainly expect [Patent Owner] to explain how it is she did it, because everybody else is having trouble doing it.

Ex-2011, 115:25-116:9 Ex-2010, ¶6.

All of the challenged claims include a QIE Module defined as “a software layer that receives, interprets and manipulates the second content so as to be accessible on different types [two or more types] of devices for use within the virtual thematic environment.”

Patent Owner described how to make and use the QIE Module in the ‘941 Patent. For example, the QIE Module “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.” Ex-1001, 15:52-55; Ex-2005, ¶34. Further, the QIE Module “is an interpreter that will take all of the rich content, interpret the information into objects to be manipulated and accessed via any device and place these objects or information in the appropriate format that is designed or will be designed by the developer.” Ex-1001, 15:62-67. Despite characterizing the QIE Module as an industry “Holy Grail” during his cross-examination, Crane urges the Board to rely upon his Declaration (Ex-1004) to find that the entirety of the challenged claims (all of which include the QIE Module) would be obvious to a POSITA over singular references—i.e., Pisanich (Ex-1007) and the Manual (Ex-1008). As will be explained below, this is one of many contradictions that Crane’s cross-examination testimony exposed from a declaration replete with unsupported and conclusory statements.

As will be explained below, the “conventional methods” of translating content disclosed by both Pisanich and the Manual, as confirmed by Crane in his declaration

and during cross-examination, are fundamentally different from the Patent Owner's claimed QIE Module. For example, presuming that the POSITA wanted to make a particular game available on different types of devices (such as an Apple II computer and a TRS-80 computer), the conventional methods, according to Crane, required the POSITA to manually rewrite the game's software for each different type of device on which the software was to be executed and played. These conventional methods do not disclose, teach, or suggest, using a software layer that receives, interprets, and manipulates second content to make it accessible on different types of devices—i.e., the claimed QIE Module. As explained by Patent Owner's expert Dr. Medvidović (Ex-2005, ¶¶79,88,89) and confirmed by Crane in his cross-examination (quoted above), the claimed QIE Module differs significantly from and would not be obvious over the conventional methods disclosed and relied upon in the prior art. Therefore, the Patent Owner's claimed QIE Module represents a significant and nonobvious innovation within the industry—i.e., a “Holy Grail.”

Pisanich and the Manual do not teach the challenged claims' QIE Module. See Sections V(A) and VI(A). Indeed, as explained by Petitioner's expert, the common knowledge at the time of the invention was to create separate and different software versions of the game for (1) each specific separate type of device (see Ex-1004, ¶¶82-84; Ex-2011, 131:24-133:6 and 133:14-134:2), or (2) “different hardware and/or software systems” (see Ex-1004, p.101, n.14). Creating separate

and distinct software versions of a game to be played on different types of devices is radically different than a software layer that receives, interprets and manipulates content to make it accessible on different types of devices (i.e., two or more different types of devices; such as a PC and a mobile computing device) for use within a virtual thematic environment. See Sections (V(A)); and (VI(A)).

Patent Owner's Response demonstrates multiple reasons why either ground urged by Petitioner does not render any of the challenged claims obvious, as supported by (1) the opinions of Patent Owner's expert, Professor Nenad Medvidović ("Medvidović") of the Computer Science Department at the University of Southern California, and (2) admissions made by Petitioner's expert, Crane, under cross-examination. For all of the foregoing reasons, and as described in more detail below, Petitioner has failed to meet its burden to prove the unpatentability of the challenged claims.

II. LEVEL OF ORDINARY SKILL IN THE ART

As explained in Medvidović's declaration (Ex-2005), a POSITA at the time of the effective filing date of the application that led to the '941 Patent is someone who would have had a bachelor degree in computer engineering, computer science, or a similar discipline, and 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. Ex-2005, ¶¶22, 52-54. A POSITA would have at least a general knowledge of 3D rendering. *Id.*

Medvidović determined the level of skill of a POSITA by reviewing the ‘941 Patent and considering the type of problems encountered in the art. The Petitioner’s definition of a POSITA includes a general knowledge of advertising and virtual reality, but these backgrounds do not specifically apply to the ‘941 Patent at issue, and Patent Owner is unaware why Petitioner would include them in their definition. *Id.*

III. CLAIM CONSTRUCTION

For purposes of this proceeding, Patent Owner explicitly requests that the Board adopt the following claim constructions for certain terms found in the claims of the ‘941 Patent, which are in accordance with their ordinary and customary meaning, as would have been understood by a POSITA, in light of the specification.

The terms “first user interface” and “second user interface” should each be construed to mean a portion of a program with which a user interacts to accept input commands from the user as well as outputting information (e.g., visual, auditory, haptic, etc.) to a user. Ex-2005, ¶¶59-60. The specification supports these constructions, explaining:

Methods and systems consistent with the present invention are carried out by providing an input means, or user selection means, including hot

clickable icons etc., selection buttons, in a menu, dialog box, or a roll-down window of an interface provided at the client, and the user may input commands through a keyboard, pen, stylus, mouse, speech processing means, touch screen, or other input/selection means. The selection means may also be constituted by a dedicated piece of hardware or its functions may be executed by code instructions executed on the client processor, involving a display unit for displaying a selection window and a keyboard for entering a selection, for example.

Ex-1001, 13:53-65 (emphasis added); see also *Id.* at 15:39-42 (“The user interacts completely with the GUI 201, beginning with login, playing the game in a gaming environment, where applicable, in user help, and user subscription renewals.”); and *Id.* at 15:45-50 (“The GUI 201 also has all the data related to the user's manipulation of the selection means, including any keyboard strokes, use of a pen, joystick, interactive goggles, touch screen, or any other interactive hardware component that would allow the user the ability to move objects, people, etc.”).

The term “type” is defined as a particular kind, class, or group. *See* Ex-2005, ¶¶61-62; Ex-2007, p. 1274; Ex-2010, ¶4. Consequently, the term “types” (as used in the challenged claims) is plural and includes at least two particular kinds, classes, or groups. After reading the specification, the proposed construction is consistent with the interpretation of a skilled artisan. In particular, the specification explains that:

[T]he client may be a PC, a mobile terminal, such as a mobile computing device, a mobile phone, or a mobile data organizer (PDA), operated by the user accessing the program remotely from the client (see FIG. 1), or any other digital device that has a screen and storage.

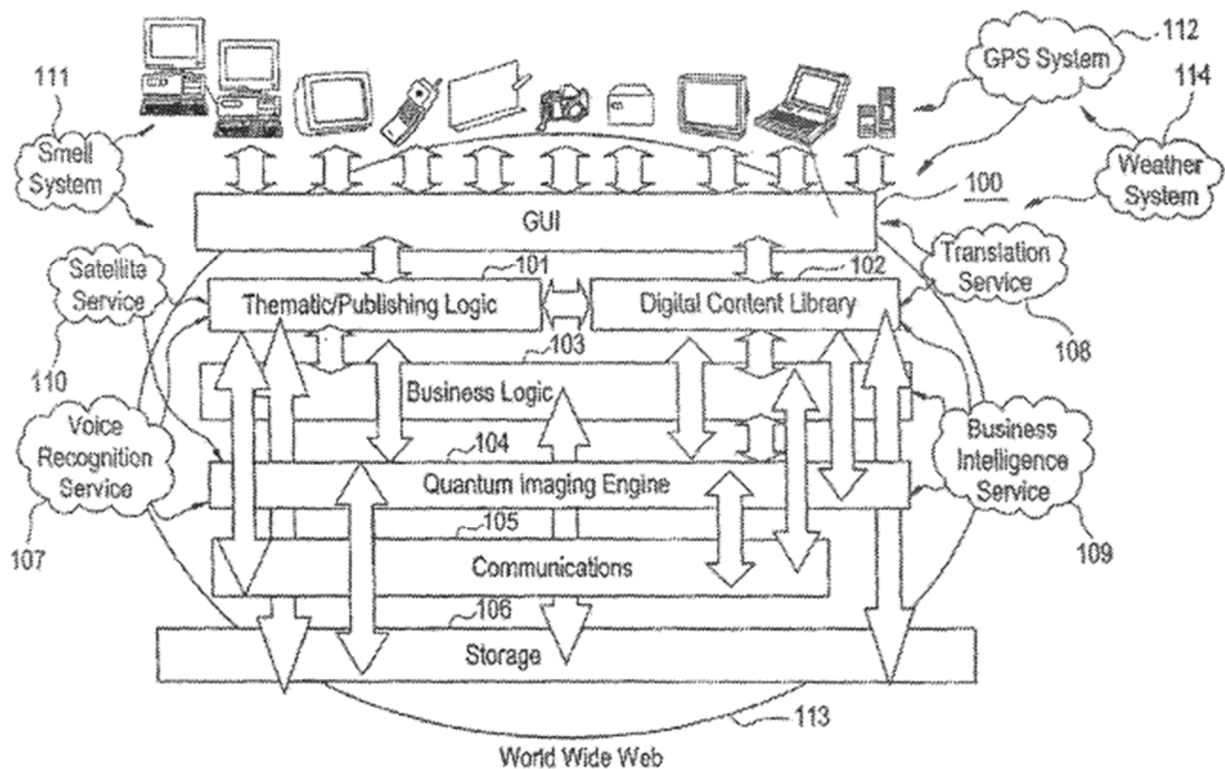
Ex-1001 at 13:7-12.

The specification refers to multiple different kinds of devices. The PC, for example, is one kind of device, while a mobile terminal is another kind of device. In the context, the phrase “different types of devices” means at least two devices, with the first device being of a first kind, group, or class (e.g., a PC) and the second device being of a second kind, group, or class (e.g., a mobile terminal). Ex-2005, ¶62.

A software layer is used to guide the partitioning of a system’s functionality into modules, where the modules assigned to one layer interact only with those that are assigned to adjacent layers. Separating a system’s functionality into layers allows changes to be made to modules in one layer without affecting the modules of the other layers. It also provides application independence from evolving hardware. Ex-2005, ¶63, discussing Ex-2006, pp. 199, 203; Ex-2010, ¶3. The specification supports these constructions, explaining that:

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 11:61-65. These six layers are shown in FIG. 1:



The terms “a client system and a server system” refer to a client-server computer architecture. Medvidović explains this would be a POSITA’s understanding of these terms at the time of the invention. Ex-2005, ¶67. This construction is also supported by the Specification (Ex-1001, 14:49-57):

Specifically, in one embodiment, the present invention may be presented in a client-server arrangement (see FIG. 3), with a client system 200 including components such as a GUI 201, and which may contain a Quantum Imaging Environment (QIE) 202, and Thematic/Application Publishing Logic Libraries 203. The client system 200 interacts with the server system 205 via an Application Interface 204.

As such, the Patent Owner urges the Board to expressly consider and adopt the constructions of the terms as outlined above.

IV. THE PETITION FAILS TO PROVIDE AN ADEQUATE SHOWING OF OBVIOUSNESS, WHICH IS REQUIRED FOR THE CHALLENGED CLAIMS TO BE FOUND UNPATENTABLE

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. The question of obviousness is resolved based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17– 18 (1966).

Petitioner relies for its obviousness analysis nearly solely on its expert declarant, Crane, who, when pressed on cross-examination, did not appear to have addressed the second *Graham* factor at all. As he testified, Crane did not analyze the differences between the claims and the cited references; rather, he only analyzed similarities between the challenged claims and the prior art references. *See*, for example, Ex-2011, 156:2-7, in which he stated:

The process that I performed was to go through each of the asserted claims and look at the patent and Pisanich. And I don't recall any particular place where I specifically call down and say these are different, instead pointing out that they are, you know, obvious under the knowledge of a POSITA.

See also, Ex-2011, 159:8-11, in which Crane stated:

My testimony is that my analysis was to determine if Pisanich did disclose the elements in the claims that are asserted, not an analysis of what they didn't disclose.

And, *see also, Ex-2011, 159:13-160:2:*

Q. Again, I'll just turn you back to paragraph 27 at page 9 of your declaration, those obviousness factors. You were instructed and you understood that you were to evaluate obviousness, second one, the difference or differences between each claim of the patent, and the prior art. Are you -- is it your testimony that you did not perform that step?

MR. WOO: Objection. Form.

THE DEPONENT: My testimony is that I looked for similarities. Similarities are the opposite of differences. So to that extent, if I'm analyzing similarities, I'm analyzing differences at the same time, just not documenting them as differences.

Crane’s summary conclusions regarding the obviousness of the challenged claim terms can, therefore, be given little or no weight since he did not follow the well-understood test for obviousness laid out in *Graham*.

Presently, the Petition alleges that Pisanich or the Manual individually teaches every element of the challenged claims.¹ The Petition fails, however, to describe any differences between the claimed subject matter and the prior art as required by *Graham*. 383 U.S. at 17–18. Given the Petition’s failure to describe any differences between the claimed subject matter and the prior art, the Petition could not and does not meaningfully address any apparent reason why a POSITA would combine and/or modify the prior art as necessary to arrive at the challenged claims. While Crane’s declaration is superficially extensive, it fails to perform the very basic steps necessary to meaningfully explain why the challenged claims are unpatentable according to the *Graham* test. This failure is but one of the reasons Crane’s testimony should be given little or no weight. “Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.” 37 C.F.R. § 42.65(a).

¹ Crane makes this statement after each section of his declaration, but fails to state what Pisanich or the Manual do not teach that has to come from the knowledge of a POSITA.

Also, as the Crane Declaration is riddled with wholly unsupported conclusory statements as to the knowledge of a POSITA for claim elements, it is entitled to little or no evidentiary weight, therefore, on the ultimate issues of whether the claims are obvious over Pisanich or the Manual in view of the knowledge of a POSITA. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (precedential) (citing 37 C.F.R. §42.65(a)). The *Xerox* opinion explains (citing *KSR*, 550 U.S. at 421 (2007)) on page 16: “This is particularly problematic in cases where, like here, expert testimony is offered not simply to provide a motivation to combine prior-art teachings, but rather to supply a limitation missing from the prior art.” (emphasis added) *See also Arendi S.A.R.L. v. Apple, Inc.*, 832 F.3d 1355, 1361–62 (Fed. Cir. 2016) (holding that reliance on common sense in an obviousness analysis is “typically invoked to provide a known motivation to combine, not to supply a missing claim limitation”) (emphasis added).

For example, Crane states, “Pisanich explicitly taught that the real-time, real-world data collected by Game Data Server 108 could be served into different games, presumably on different devices”. Ex-1004, ¶152 (emphasis added). However, there is nothing in Pisanich or Crane’s declaration that explains why a POSITA would presume that the different games were on different types of devices. Simply having different games does not mean a POSITA would infer or presume that they were or could be played on different types of devices. Crane chose the word “presumed” as

Pisanich is completely silent on the issue of different types of devices. Further, a POSITA at the time of the invention would understand that the disclosure of playing different games in Pisanich would be on the same type of device and not on different types of devices. Ex-2005, ¶92. This is but one example of Crane filling in elements missing in the relied-upon prior art through unsupported statements of what a POSITA would know. Additional examples of Crane’s improper testimony and analysis are discussed hereinbelow. Finally, “[a]rguments must not be incorporated by reference from one document into another document.” 37 C.F.R. §42.6(a)(3). The “practice of citing the Declaration to support conclusory statements that are not otherwise supported in the Petition also amounts to incorporation by reference.” *Cisco Systems, Inc. v. C-Cation Techs.*, IPR2014-00454, Paper 12 at 9 (PTAB. Aug. 29, 2014) (designated informative) (emphasis added). The Petition impermissibly incorporated by reference large portions of Crane’s Declaration (Ex-1004). As one example, the Petition (Paper 2; “Pet.”) at pp.20-21 has a single paragraph describing its assertion that element 1[b] is disclosed but incorporates by reference eleven paragraphs (¶¶127-137) of the Crane Declaration (Ex-1004) without further

explanation.² Further, regarding element 1[b], Petition pp. 23-25 discusses element 1[d] in three paragraphs but incorporates thirteen paragraphs of the Crane declaration ¶¶147-159. Under 37 C.F.R. §42.6(a)(3), the Board should give the incorporated arguments from the Crane declaration no weight when they are not fully set forth, explained, or otherwise analyzed within the Petition itself.

V. PETITIONER FAILS TO DEMONSTRATE THAT THE CHALLENGED CLAIMS ARE OBVIOUS OVER PISANICH ALONE OR IN COMBINATION WITH THE KNOWLEDGE OF A POSITA (FIRST GROUND)

Petitioner fails to establish obviousness as to at least four different limitations present in each of the challenged claims: (1) “the QIE module being a software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment” (§V(A)); (2) “a second user interface associated with the secondary application and enabling the user to access the secondary application through the second user interface” (§V(B)); (3) “a client system and a server system communicating to provide an interactive software application platform”(§V(C)); and (4) “coordinated

² The Board cited in its Institution Decision (Paper 11, p.18) the entirety of ¶128 of the Crane declaration, which, respectfully, is noncompliant with 37 C.F.R. §42.6(a)(3).

by the thematic/publishing logic module” (§V(D)). Each limitation is discussed below in §§V(A-D).

A. Pisanich, Alone or In Combination With the Knowledge of a POSITA, Does Not Teach the Claimed QIE Module.

Pisanich, alone or in view of the knowledge of a POSITA, does not teach or suggest “the QIE module being a software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment” as recited in challenged independent claims 1 and 23 of the ‘941 Patent for the following reasons.

1. Pisanich. Alone or In Combination With the Knowledge of a POSITA, Does Not Teach that the QIE Module is a Software Layer.

All of the challenged claims require that the QIE Module be a software layer that receives, interprets, and manipulates the second content so as to make it be accessible on different types of devices for use within the claimed virtual thematic environment. Petitioner incorrectly alleges that Pisanich teaches this limitation. Petition, pp.23-25.

First, Petitioner asserts that Pisanich’s game data server 108 is the QIE Module of claim 1. In particular, Petitioner alleges that the “game data server 108 receives, interprets and manipulates the second content.” Pet. 23. This argument fails because Petitioner does not address the claim language “the QIE module being a

software layer.” Further, the game data server 108 cannot be the QIE module and certainly not a software layer performing the functions of the QIE Module, as explained by Medvidović. Ex-2005, ¶¶81,97; Ex-2006, pp.199,203. Pisanich’s game data server 108 is constructed of separate objects using an object-oriented architecture, not a “software layer.” See Ex-2005, ¶¶78-81, 86-89, and 93.

Medvidović further explains that a QIE Module is not inherently disclosed by Pisanich, nor would a POSITA assume that Pisanich uses a software layer for the game data server 108. Ex-2005, ¶79. Indeed, Petitioner’s own expert admitted that Pisanich used an “object-oriented design,” stating that:

Figure 3 is pictured because of the citation that I make down below, and Pisanich is describing Figure 3 as being implemented using an object-oriented design.

Ex-2011, 137:4-7.

As Medvidović explains, an object-oriented design is not a software layer. Ex-2005, ¶¶79.

Petitioner does not address or provide any evidence showing that Pisanich, alone or in combination with the common knowledge of a POSITA, teaches the claimed QIE Module being a software layer. Rather, Petitioner makes a sweeping conclusory statement that “Pisanich teaches this limitation,” referring to the entirety of element 1[b] (Pet. 20), but provides no explanation for where or how Pisanich

discloses a software layer comprising the QIE Module. Petitioner's own expert admitted that Pisanich teaches an object-oriented design. However, an object-oriented design does not teach or suggest "a software layer"—i.e., an object-oriented design and a software layer design are separate and distinct software architectures. Ex-2005 at ¶79. Pisanich does not disclose or teach a POSITA to implement or construct the claimed QIE Module as a software layer architecture in light of Pisanich's object-oriented architecture. *See, for example*, Ex-2005, ¶79, citing Ex-2006, pp.199, 203 and Ex-2008, pp.372, 373; Ex-2010, ¶5.

2. Pisanich, Alone or In Combination with the Knowledge of a POSITA, Does Not Teach the QIE Module being a Single Software Layer That Makes the Second Content in the Same Virtual Thematic Environment Accessible on Different Types of Devices.

Not only does Petitioner fail to address the QIE Module being a software layer, the Petitioner also does not address that the claimed QIE Module is a single software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the same³ virtual thematic environment. A POSITA would have understood that Pisanich discloses different games, each having its own virtual thematic environment (i.e. software created

³ Under claim construction rules "the" virtual thematic environment should be understood to be the same virtual thematic environment when used later in the claim.

specifically for each type of device). A POSITA would not have understood Pisanich to disclose a game having a single software layer that receives, interprets, and manipulates secondary content to make it accessible on different types of devices for use within the same virtual thematic environment. Ex-2005, ¶93.

During cross-examination, Crane affirmed that in order to play a flight simulator game on different types of devices, conventionally, different versions of the flight simulator game were required for each different type of device (i.e., a PC, a mobile device, etc.); not a QIE Module that receives, interprets, and manipulates the second content to make it accessible on different types of devices. For example, Petitioner asked, and Crane answered as follows:

Q. You testified that the software that runs a flight simulator on Apple II in 1984 and the software that runs a flight simulator for the TRS-80 in 1987 would be, and I quote, different computer software games. Do you recall that?

A. Yes.

Ex-2012, 419:1-7; Ex-2010, ¶7.

Crane compared this to how Pisanich's different games, i.e., 112 and 116, functioned:

Q. In your opinion, would a POSITA looking at Figure 1 of Pisanich understand that the other games 116 could be other versions of a flight simulator game?

A. Could be.

Ex-2012, 419:12-15.

The common thread in this testimony by Crane is that different devices and games, even if they have a similar theme, required a different version of the game for each different type of device.

Pisanich does not disclose, therefore, the claimed QIE Module that, as a single software layer, received, interpreted, and manipulated second content to make it accessible on different types of devices for use within the same virtual thematic environment.

3. Pisanich, Alone or In Combination with the Knowledge of a POSITA, Do Not Teach That the QIE Module Makes the Second Content Accessible on Different Types of Devices for Use Within the Same Virtual Thematic Environment.

Petitioner asserts that the Game Data Server 108 of Pisanich discloses a software layer comprising a QIE Module that receives, interprets, and manipulates the second content to be accessible on different types of devices for use within the virtual thematic environment. Pet. 23-25. Petitioner's expert, Crane, when asked if he could provide an example or citation in Pisanich demonstrating that the games were on different types of devices, admitted that he could not "recall" if "multiple devices [were] disclosed in Pisanich." Ex-2011, 171:10-16.

According to Pisanich, the game data server 108:

[C]ontinually 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.

Ex-1007, 5:13-15.

Crane admits (Ex-1004, ¶82; and Ex-2011, 129:9-17, 130:12-19, 131:21-133:6) that the individual game 112 and the “entirely different game 116” (Ex-1007, 7:9), if played on different types of devices would require that the game software be manually rewritten to be run on each different type of device. Such rewritten software is referred to in the art as a “port.” Ex-2011 at 131:21-133:6.

Pisanich’s Game Data Server 108 does not interpret and manipulate the second content to make it accessible on different types of devices. Ex-2005, ¶97. Rather, the game data server 108 simply gathers “real time” data and makes that data available for use in games 112 and 116. Ex-1007, 5:13-15; Ex-2005, ¶97. Only for the sake of argument, any interpretation and manipulation of the data in Pisanich (which is explicitly not disclosed in Pisanich) would have to be performed within each game 112, 116 that is being played on each device (i.e., a single type of device). Ex-2011 at 132:19-133:7; Ex-2005, ¶97. Therefore, Pisanich’s game data server 108 does not teach or suggest the claimed QIE Module, as game data server 108 does not interpret and manipulate the second content to make it available on different types of devices. Ex-2005, ¶97. Further, the claimed second content is not the same as the

claimed second real-time information, as the terms are separate and independent in the claims. Ex-2005, ¶98. In formulating its Petition, Petitioner erroneously asserted:

A POSITA would have understood that the players 120, 124 etc. may access such second content on different types of devices for use with the game. Ex-1004, ¶¶152-53, 159. Specifically, “[A]s 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....”

Petition, pp.23-24.

Petitioner goes on to further incorrectly state that “[a] POSITA would have understood that players 120, 124, etc. may access such second content on different types of devices for use within the game.” Pet. 23; Ex-2005, ¶83. However, a POSITA, given the ‘941 Patent’s specification, would understand that the claimed “different types of devices,” as used in all of the challenged claims, refers to devices that differ in type. For example, “a PC, a mobile terminal, such as a mobile computing device, a mobile phone, or a mobile data organizer (PDA), operated by the user accessing the program remotely from the client (see FIG. 1), or any other digital device that has a screen and storage” are different types of devices. Ex-1001, 13:7-12; Ex-2005, ¶43.

Additionally, Pisanich’s game data server 108 does not receive, interpret, and manipulate the second content to make it accessible on different types of devices for

use with the same virtual thematic environment. In fact, Pisanich expressly discloses that Player 120 and Other Players 124 play different games—i.e., different virtual thematic environments. *See, for example*, Ex-1007, 7:9-11, and Figure 1; Ex-2005, ¶¶84-85. This includes, at the very least, different virtual thematic environments (rather than the claimed same virtual thematic environment) that are independent of one another (whether or not they have similar themes); rather than the second content being accessible on different types of devices for use within the (i.e., the same) virtual thematic environment. Ex-2005, ¶84.

For example, Pisanich teaches, “[m]oreover, a second player 124 may play an entirely different game 116 (for instance, a car racing game, or a football game) than the game 112 being played by the first player 120.” Ex-1007, 7:9-11, emphasis added. But a car racing game has a car racing theme, and a football game has a football game theme. Ex-2005, ¶84; Ex-2011, 172:3-13. Pisanich does not teach that the claimed QIE Module is a software layer that receives, interprets, and manipulates the second content to make it accessible on different types of devices for use within the (i.e., the same) virtual thematic environment. Ex-2005, ¶¶84, 90-93.

Even assuming that Pisanich disclosed a different device being used for each game, such a disclosure would not teach second content being made accessible on different types of devices (i.e., two or more different types of devices) for use within the (i.e., the same) virtual thematic environment. Ex-2005, ¶84.

Simply put, the QIE Module allows the same content to be displayed and interacted with by two players of the same game using two different types of devices without having to manually rewrite the software and install the rewritten software on each device. Pisanich does not disclose, teach, suggest, or imply, the claimed QIE Module; rather, according to Petitioner, Pisanich, in view of common knowledge, simply discloses the use of the conventional methods that required different versions of a game be manually written and run on each different type of device. Ex-2005, ¶94.

Further, Crane admitted that the game 112 and the different game 116 of Pisanich would have different themes, not the same theme:

Q. Okay. So looking at -- down below the Figure 1 of Pisanich, on page 61: "Moreover, a second player may play an entirely different game 116, for instance, a car racing game or a football game than the game 112 being played by the first player. However, the different game 116 may request the same type of data, weather, for example."

Okay. Do you agree that a car racing game has a car racing theme?

A. Generally, I would say that a car racing game has a car racing theme.

Q. Okay. And do you agree that a football game generally has a football theme?

A. I would say that a football game has a football theme.

Q. Okay. Is a car racing theme the same as a football theme?

A. Not necessarily. Probably not.

Q. Probably not. That's an interesting...

A. You could be playing football and having cars driving around you. It's certainly possible. But as a general rule, I would say those are different themes.

Ex-2011, 171:21-172:17.

Upon recognizing the deficiencies in their Petition, Petitioners, on re-direct of Crane, attempted to get Crane to testify that the different game 116 could be “some other version of a flight simulator game” if the game 112 played by the first player is a flight simulator game. Ex-2012, 419:12-15. However, this does nothing to make up for the deficiencies in both the Petition and Pisanich’s disclosure as to this claimed element. Ex-2005, ¶85. Rather, Pisanich specifically states that the game 116, played by the second player 124, is “an entirely different game 116.” Ex-1007, 7:9-11, emphasis added. Crane provides no evidence why this explicit teaching of Pisanich should be ignored. Further, Petitioner’s theory does not change the fact that Pisanich’s game data server 108 simply “gathers ‘real-time’ data from traffic 100 and weather 104 data provider systems [and] permits data available to a game 112, 116.” Ex-1007 at 5:13-15. Pisanich’s game data server 108 does not interpret and manipulate the second content (e.g., real-time data from traffic 100 and weather 104)

to make it accessible on different types of devices for use within the same virtual thematic environment, as described above. Ex-2005, ¶94.

Additionally, the phrase “different types of devices” should not be construed to overlook both words “different” and “type.” The word “types” is plural, meaning at least two types, where “type” is defined as “a particular kind, class, or group.” Ex-2005, ¶60-61, citing Ex-2007, p.1274. The word “different” means two or more of a thing, where at least a first thing is not of the same type (unlike in nature, form, or quality) as at least a second thing. Ex-2005, ¶62, citing Ex-2007, p.322. As such, Pisanich, alone or in view of the common knowledge of a POSITA, does not teach or even suggest the claimed QIE Module—i.e., a software layer receiving, interpreting, and manipulating second content to make it (i.e., the second content) accessible on different types of devices.

In support of Petitioner’s argument, Petitioner cites to ¶¶152-153 and 159 of Crane’s declaration. Pet. 23. In Ex-1004, ¶152, Crane states that “[a]s noted above, it was well known in the art as of the filing of the ‘941 Patent to interpret and manipulate video game content for use on different types of devices.” In support of this sweeping and conclusory generalization, it is apparent that Crane is referring to ¶¶82-84 of his declaration (Ex-1004), with ¶82 stating:

To publish a game on different platforms, the game program had to be configured to manipulate game content to work on different devices.

As was well known in the art, the conventional method of doing so involved creating a different version of the game for each device or at least different size and resolution images. (emphasis added)

In Ex-1004, ¶83, Crane created a graphic that shows six different versions of the same game being run and played on a different type of computer. However, a POSITA (as Crane explicitly stated in ¶82) would understand that each version of the game shown in ¶83 required its software to be written for the unique combination of hardware and software for each specific computer (i.e., according to “the conventional method of doing so” outlined in ¶82 of Crane). Ex-2005, ¶88; *see also* Ex-2011 at 129:1-17.

Mr. Crane confirmed the “conventional method” upon cross-examination, Ex-2011 at 129:1-17:

Q. Okay. And is that a little bit further on in paragraph 82, that you state: "To publish a game on different platforms, the game program had to be configured to manipulate game content to work on different devices"? Is that summarizing your prior answer?

A. Yes. I mean, that's not as complete as it could be because what -- those modifications are made at the game-design level, the game-programming level. So it's really what you're doing is you're writing a different version of the game for each one.

Q. And that was going to be my next question, was, is that, if I have software that runs flight simulator on an Apple II in 1984, the software

for the Track -- or the TRS-80, excuse me, in 1987, those would be different computer software games. Is that correct?

A. Yes.

And see also Ex-2011 at 130:12-19:

Q. ...was the Flight Simulator II software that was used to play on the 1984 Apple II capable of running on a Commodore 64?

A. No.

Q. And then was the Flight Simulator II software on the 1984 Commodore 64 capable of being played on the TRS-80 in 1987?

A. No.

Therefore, Pisanich does not teach a software layer or any type of interpreter that receives, interprets, and manipulates the content to be accessible on different types of devices. Rather, a POSITA would understand that Pisanich, as expressly explained by Crane, discloses manually creating different software programs for different types of devices in order for the software programs to run--i.e., the conventional methods such as porting.

Crane also testified 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.” Ex-1004, ¶84. In context, Crane refers to the conventional rendering technology that could be used to create the six different

versions of the same flight simulator game referenced in ¶¶82-83 of Ex-1004. For example, Crane testified:

A. It's not a question of technology. I could use the term for the conventional method of creating different versions as what we used to call making a port, a p-o-r-t. It just stands for porting the code, converting the code over to a different console. So that's the convention method, is the port. This is rendering technology. It's unrelated. Just because they both use the term "conventional," it's unrelated.

Q. Okay. That's what I was trying to figure out. In paragraph 84, though, it's different types – excuse me. So as to be accessible on different types of devices. What does it mean to be accessible?

A. In the case of a game, it means to play the game, to view the game, to control the game.

Q. Okay. So the conventional rendering technology in paragraph 84, would you say is a different way of making the game accessible on a different type of device that is from porting, as you used that term in paragraph 82?

A. Well, there's certainly overlap. What you're trying to do when you port is you are making different versions for the display code and such. So the conventional rendering technology I'm talking about in paragraph 84 is primarily to make the display work on different devices.

Q. Okay. And for paragraph 84, that conventional rendering technology, would it require a different version of the game for each display?

A. Yeah, it's hard to explain that to a nontechnical person. But every time rendering technology is written, it uses the same procedures, the same concepts, the same techniques, but it's never the same program.

Ex-2011 at 131:24-133:7. Further, Crane testified:

Q. ...The concept in the -- in the end of paragraph 84: "The concept of -- of interpreting and manipulating content such that the content is accessible on different types of devices was well known." Do you see that --

A. Yes.

Q. -- sentence? Is that referring to the QIE that we discussed in paragraph 66?

A. It's just a generic statement of what a person of ordinary skill in the art would have known. Interpreting and manipulating content is something that you did when making a port.

Ex-2011 at 133:14-134:2.

Therefore, as demonstrated by Crane and confirmed by Medvidović, a POSITA would understand that Pisanich does not teach or even suggest a software layer capable of manipulating second content to make the second content accessible

on different types of devices for use within the same virtual thematic environment, as explained above. Ex-2005, ¶¶82-91, 94, 111.

While the Crane Declaration does not particularly identify the “game data server 108” of Pisanich as disclosing a QIE Module, it does point to the “game data server 108” as disclosing “real-time, real-world data collected by Game Data Server 108 [that] could be served into different games, presumably on different devices”. Ex-1004, ¶152. Crane’s presumption appears to be based on his reliance on the following language of Pisanich, which provides, in part that:

Moreover, a second player 124 may play an entirely different game 116 (for instance, a car racing game, or a football game) than the game 112 being played by the first player 120. However, the different game 116 may request the same type of data (weather, for example) as the first game 112. The architecture of the present invention can be extended to meet the data requirements of other games.

Ex-1007, 7:9–13. However, even if Pisanich discloses that the second content may be accessible to different games, it does not necessarily disclose that the second content is accessible “on different types of devices for use within the [same] virtual thematic environment,” as required by claim 1. Ex-2005, ¶91. Further, a POSITA reading Pisanich would not assume or presume, as Crane did, that “Game Data Server 108 could be connected to multiple devices playing different games, and said

server interpreted and manipulated content to said multiple devices as claimed.” Ex-1004, ¶153. *See*, Ex-2005, ¶¶88-92.

4. Pisanich, Alone or In Combination with the Knowledge of a POSITA, Does Not Teach the QIE Module Being a Software Layer that Receives, Interprets, and Manipulates the Second Content.

In formulating Ground 1, Petitioner states that a POSITA would have understood that players 120 and 124 may access such second content on different types of devices for use with the game. *Pe.* 23. In support of its position, Petitioner refers to Pisanich’s disclosure that “[a]s a player 120 controls a gaming unit within a game 112, for example, an aircraft, a car, or the like, ...” *Pet.* 23-24. A POSITA, however, would not understand this quote to disclose that the claimed QIE Module makes the second content “accessible on different types of devices for use within the virtual thematic environment.” Ex-2005, ¶96. Rather, Petitioner’s above-quoted language from Pisanich merely discloses that different types of vehicles (“an aircraft, a car”) can be simulated, not that the second content is manipulated by a QIE Module to make it accessible on different types of devices as required by all of the challenged claims. *Id.*

The Petition also states that Pisanich discloses “that game data server 108 receives, interprets, and manipulates the second content, i.e., real world information that is in real time.” *Pet.* 23. In support of its position, Petitioner states that the second

content is the “real world information ... a game data server 108 continually gathers ‘real-time’ data from traffic 100 and a weather 104 data provider systems.” *Id.* However, this is an incorrect reading of the elements of the challenged claims. Ex-2005, ¶¶38, 39, 51, 95. Specifically, the primary application provides the “second content” of claim 1. Ex-1001, claims 1, 23; Ex-2005, ¶95. Petitioner asserts that the primary application is the game 112. Pet. 20. As such, the claimed second content cannot be the real-time traffic data or weather information, as Petitioner asserts, because the challenged claims require that the second content must be provided by the primary application. The traffic and weather data disclosed by Pisanich is not provided by the primary application; it is provided by “traffic 100 and a weather 104 data provider systems” which are outside the primary application (the game 112). Ex-1007, 7:17-23; Ex-2005, ¶99.

5. For the Reasons Outlined in §§V(A)(1-4), the Petition Does Not Meet Its Burden of Showing that the Challenged Claims Are Obvious Over Pisanich Alone or In Combination with the Common Knowledge of POSITA.

Petitioner has not proven that the prior art teaches or suggests that the QIE Module is a software layer or that this software layer comprising the QIE Module “receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment.” The Petition does not show that these claim elements are within the scope of the prior art

as required by *Graham*, 383 U.S. at pp.17–18, nor does it address the differences between the claim limitations and what the prior art references teach. For the foregoing reasons, Petitioner has failed to meet its burden showing that Pisanich, alone or in view of the knowledge of a POSITA, discloses all of the claimed elements of the QIE Module as required in each of the challenged claims.

B. Pisanich, Alone or In Combination with the Common Knowledge of POSITA, Does Not Teach the Second User Interface Associated with the Secondary Application.

Each challenged claim requires “a second user interface associated with the secondary application and enabling the user to access the secondary application through the second user interface” Ex-1001, independent claims 1, 23.

First, as explained by Medvidović, the challenged claims require that the “GUI module” provide the “second user interface.” Ex-2005, ¶75. Petitioner annotated Pisanich Figure 3 (Pet. 19, reproduced below) to show a dotted-line box labeled “GUI module” around Rendering Engine 316, Audio Engine 320, Force Feedback Engine 325, and Player Control/Game State Manager Engine 328. *Id.* Crane’s cross-examination verified that the “dotted line refers to the GUI module.” Ex-2011, 163:9-17.

Petitioner also asserted that “[t]he traffic manager 300 also provides a second user interface associated with the secondary application through audio engine 336

[sic]⁴ and enabling the user to access the secondary application through the second user interface.” Pet. 22, emphasis added. Inexplicably, Crane stated in his cross-examination that he believed that Pisanich disclosed that the second user interface was the audio system 336. Ex-2011, 164:18-21. But, in either case, the traffic manager 300, which the Petitioner believes Pisanich discloses as the claimed second user interface (Pet. 22), is separate from, and not part of, what Petitioner’s expert identified as the GUI module in annotated Figure 3 reproduced below (i.e., Rendering Engine 316, Audio Engine 320, Force Feedback Engine 325, and Player Control/Game State Manager Engine 328). Ex-2005, ¶¶75-76.

Further, Petitioner provides no evidence that the audio system 336 is provided by the GUI module. Without support, Petitioner states that the Traffic Manager 300, that is shown outside of the alleged GUI module annotated by Petitioner’s expert in Figure 3 (Pet. 19, reproduced below), provides the audio engine 336. Pet. 21. Petitioner appears to admit, therefore, that the alleged “GUI module” of Pisanich does not disclose the challenged claim’s requirement that the “second user interface” is associated with the secondary application. *Id.*

⁴ Petitioner is either referring to audio engine 320 or audio system 336. In either case, neither the audio engine 320 nor the audio system 336 teaches or suggests a second user interface.

Patent Owner has highlighted the reproduction below of Crane's annotated Figure 3 of Pisanich to emphasize the above-mentioned components. The red annotations were made by Petitioner's expert Crane, while the highlighting was made by Patent Owner for this Response. Ex-2011, 161:22-162:2.

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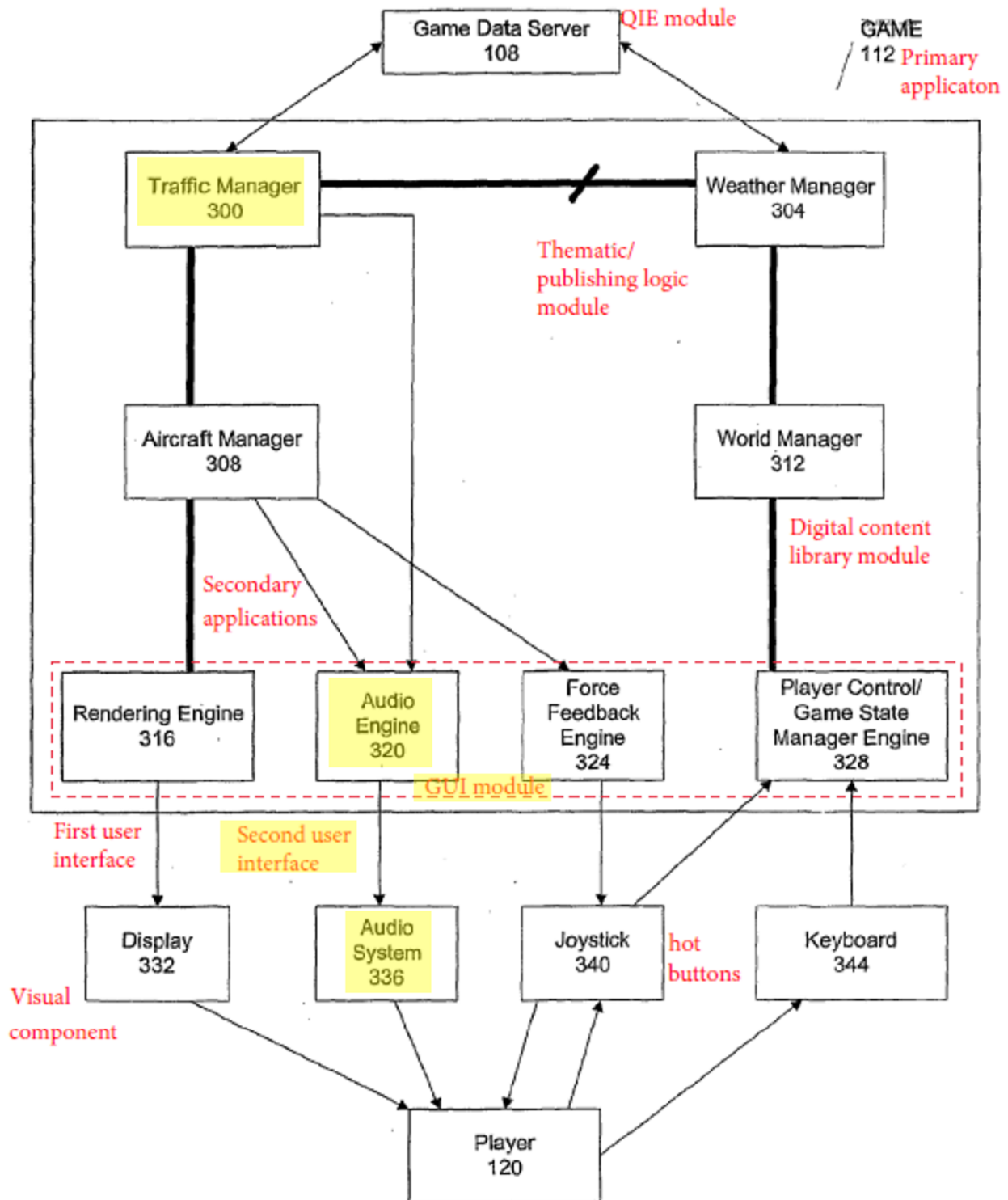


Figure 3 (Annotated)

Further, a POSITA would understand that Pisanich does not teach or suggest a first user interface that is associated with the primary application and enabling the user to access the primary application through the first user interface, and a second user interface associated with the secondary application and enabling the user to access the secondary application through the second user interface. Ex-2005, ¶77. A user interface is a “portion of a program with which a user interacts.” Ex-2008, p.544; Ex-2005, ¶77. A POSITA would understand the term “interact” to indicate two-way communications or activities; i.e., that the program accepts inputs from the user and performs outputs to the user as well. Ex-2005, ¶77. For example, “inter” (as used in the claim term “interacts”) is a prefix that comes from Latin and means “between.” Ex-2007, pp.607-608. The term “interacts,” indicates, therefore, that two entities act between one another. Ex-2005, ¶77.

However, Pisanich does not disclose how or even if the audio engine 336 (i.e., what Petitioner identifies as the claimed “second user interface”) can accept inputs from a user. *Id.* The audio engine 336 merely outputs audio. *Id.* Therefore, Pisanich’s audio engine 336 cannot be a second user interface as it does not accept inputs from a user. *Id.* A POSITA would understand that there is no second user interface disclosed in Pisanich that enables the user to interact with and provide inputs into

the audio engine 336—i.e., the audio engine 336 only outputs audio to the user and does not accept user input. *Id.*⁵

Although Crane alleges in Ex-1004 ¶146 that “Pisanich disclosed, or at least rendered obvious in view of the knowledge of a POSITA this claim element,” the Petition and Crane do not provide any articulated, specific reasoning, based on evidence of record, to support their enunciated legal conclusion of obviousness. *See* 37 C.F.R. 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F. 3d 1364, 1380 (Fed. Cir. 2016) (“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.”)

⁵ Further, Pisanich’s player control/game state engine 328 does not use a second user interface. *See*, for example, Pisanich 34:11-15, and FIG. 3. Rather, the player uses the alleged first user interface (player control/game state engine 328) to respond to the audio engine 336, not a second user interface associated with the secondary application. *Id.* As such, the user in Pisanich could not access the secondary application through the second user interface. *Id.*

As explained in the USPTO’s recently “Updated Guidance for Making a Proper Determination of Obviousness” (89 FR 14449 at 14453):

Without diminishing the need to consider all relevant evidence when making a determination about obviousness, the Federal Circuit has made it clear that an expert's conclusory opinion about a matter relevant to the obviousness inquiry may be unavailing unless accompanied by factual support.

Therefore, Petitioner has failed to meet its burden of showing that Pisanich, alone or in view of the knowledge of a POSITA, discloses “a second user interface associated with the secondary application and enabling the user to access the secondary application through the second user interface” as required in each of the challenged claims.

C. Pisanich, Alone or In Combination with the Knowledge of POSITA, Does Not Teach a Client System and a Server System Communicating to Provide an Interactive Software Application Platform as Required in Claims 23-26.

Petitioner states, “[a]s shown by Figure 3 of Pisanich ... the game data server 108 and the client computing device running the game 112 provides an interactive software application platform to player 120.” Pet. 32. In support of its position, Petitioner relies on Ex-1004, ¶199, which states, “a POSITA would have recognized the system taught by Pisanich to be a client-server configuration including the claimed client system and server system.” This conclusory, unsupported statement

by Petitioner's expert Crane is impermissibly intended to provide an element entirely missing from Pisanich. *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 16 (precedential). As such, it should be given little or no evidentiary weight.

As explained by Medvidović, a POSITA would not explicitly or implicitly understand that the alleged “client computing device” and “game data server 108” of Pisanich disclose a client system and a server system, respectively. Ex-2005, ¶110. Pisanich never uses the term “client” or “client computing device.” *Id.* Rather, Pisanich discloses a three-tier architecture rather than a client-server architecture. *Id.* A POSITA would not assume that any object communicating with a server is necessarily a client system. *Id.* For example, other objects can communicate with a server, such as another server. A POSITA, for example, would likely believe that game 112 was another server communicating with game server 108 to provide the simulation. *Id.* A POSITA given Pisanich would believe that a three-tiered architecture having two servers communicating would, in fact, be more beneficial than a client system and a server system because a three-tiered architecture is more capable of facilitating communications. Ex-2005, ¶110. As such, Crane's unsupported, conclusory statement that Pisanich discloses a client-server configuration is not only improper under *Xerox*, it is wholly inaccurate. As such, it must be given little or no evidentiary weight by the Board.

Therefore, Petitioner has failed to meet its burden of showing that Pisanich, in view of the knowledge of a POSITA, discloses the claimed “client system and server system communicating to provide an interactive software application platform.”

D. Pisanich, Alone or In Combination with the Common Knowledge of POSITA, Does Not Teach the Claimed Element “Coordinated by the Thematic/Publishing Logic Module.”

The Petition fails to address the limitation found in challenged claims 1, 3, 5, and 7-12 that the “content management of information within the virtual thematic environment [is] coordinated by the thematic publishing logic module.” Ex-1001, claim 1, emphasis added. Rather, Petitioner (Pet. 26) simply refers to Ex-1004, ¶¶160-64 to allegedly demonstrate the obviousness of this claim element. In ¶¶160-64, Crane discusses Pisanich’s disclosure of an object-oriented design, and in particular, “any of the objects in the disclosed object oriented design performed content management as claimed.” Ex-1004, ¶162. However, Crane never discusses where, how, or even why a POSITA would understand Pisanich to disclose that “the content management ... [is] coordinated by the thematic publishing logic module” as required by the challenged claims. Such wholly unfounded and conclusory analysis is improper and cannot form the basis for a finding of the obviousness of a claim element. *See, for example, In re Magnum Oil Tools Int’l, Ltd.*, 829 F. 3d 1364, 1380 (Fed. Cir. 2016) (“To satisfy its burden of proving obviousness, a petitioner

cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.”) Petitioner has wholly failed to address this limitation of the challenged claims.

Further, as explained by Medvidović, Pisanich, in view of the knowledge of the POSITA, does not teach any coordination between the objects. Ex-2005, ¶80 referencing Ex-2008, pp.372-373. Pisanich’s specialized objects store their own data in an independent manner, and without any coordination by the thematic publishing logic module. *See* Pet. 26,⁶ and Ex-1004, ¶¶160-163. The separate modules of Pisanich operate independently of one another. Indeed, Crane acknowledges this as well, stating: “Moreover, Pisanich taught the use of an object oriented design such that each object managed its own storage”. Ex-1004, ¶161.

Neither the Petition nor Crane explains how a POSITA would understand that Pisanich’s individual modules, each having their own storage, disclose, as required by claim 1: at least one digital content library module storing information, the information containing 2-dimensional and 3-dimensional content, and providing content management of information within the virtual thematic environment

⁶ Again, the Petition impermissibly incorporates without discussion at least ¶161 of Crane’s declaration, Ex-1004.

coordinated by the thematic/publishing logic module. There is no description in Pisanich of such coordination or content management, and neither Petitioner nor Crane explains how a POSITA would understand that such coordination and content management was disclosed in Pisanich.

For the foregoing reasons, Petitioner has failed to meet its burden of showing that Pisanich, alone or in view of POSITA's common knowledge, discloses the claimed requirement that “content management of information within the virtual thematic environment” is “coordinated by the thematic publishing logic module.”

VI. PETITIONER FAILS TO DEMONSTRATE THAT THE INVENTION IS OBVIOUS IN VIEW OF THE MANUAL (SECOND GROUND)

Petitioner's second ground attempts to find the elements of the challenged claims in the Manual, relying on the knowledge of a POSITA for the many missing elements not explicitly or implicitly disclosed in the Manual. However, Petitioner fails to establish obviousness as to at least the following limitations present in each of the challenged claims: (1) “the QIE module being a software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment” (§VI(A)); and (2) “a client system and a server system communicating to provide an interactive software application platform” (§VI(B)). Each of these missing limitations is discussed below in §VI(A-B).

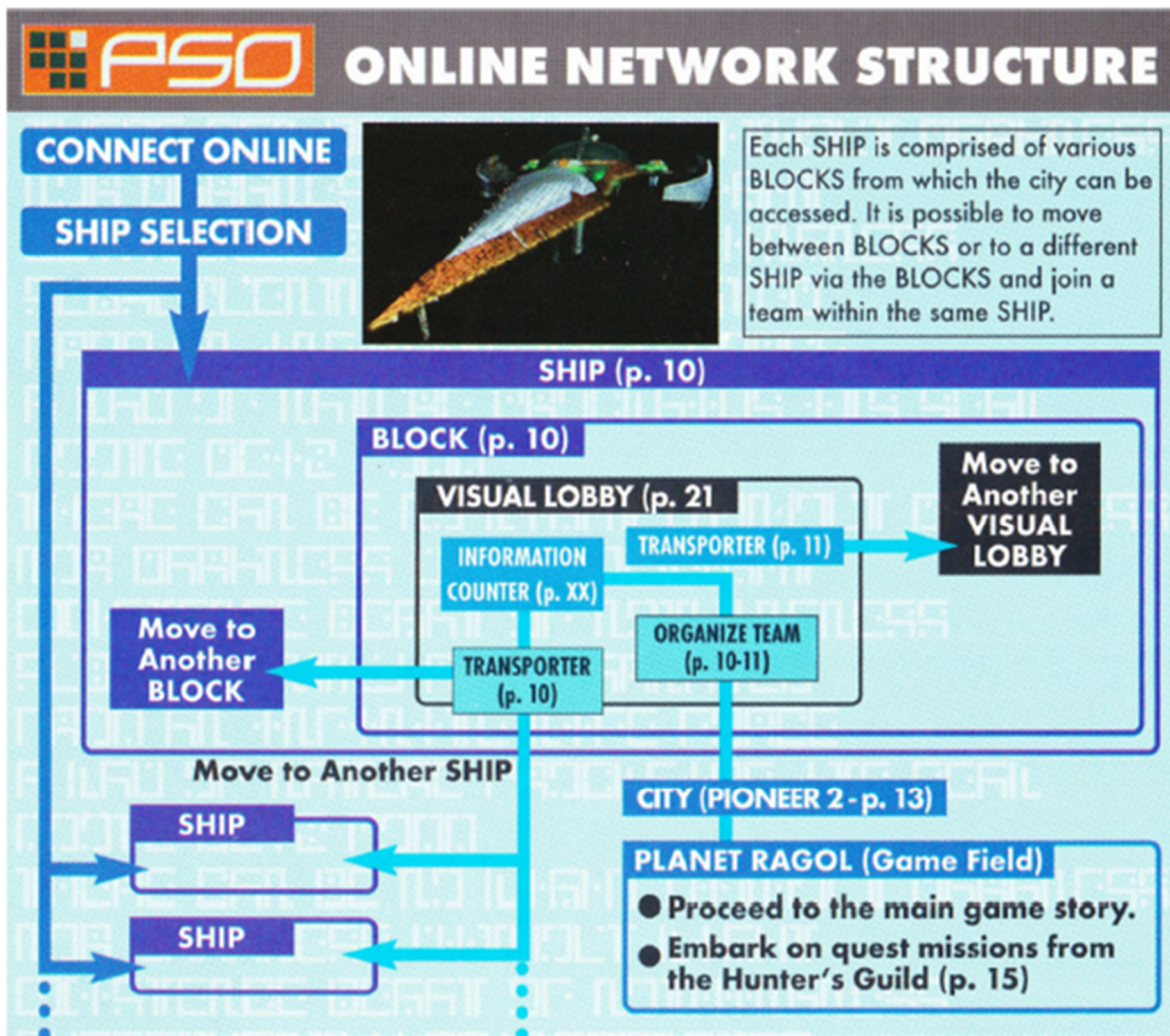
A. The Manual, Alone or In Combination with the Common Knowledge of a POSITA, does not Teach the Claimed QIE Module.

A POSITA would understand that the Manual does not teach or suggest a “QIE module” or that the QIE module is “a software layer” as required by challenged claims 1 and 23. Ex-2005, ¶117. The Manual describes how to play a game, but it does not describe or otherwise disclose how the game is implemented in either the software or hardware architecture. Ex-2005, ¶118. A POSITA would not understand from a gameplay guide or user manual the underlying software or hardware architecture that allows the game to be executed or run. Ex-2005, ¶¶114-115, 118.

As discussed above, a software layer is used to guide the partitioning of a system’s functionality into modules, where the modules assigned to one layer interact only with those that are assigned to adjacent layers. Ex-2005, ¶118, discussing Ex-2006, pp.199, 203. Separating a system’s functionality into layers allows changes to be made to modules at one layer without affecting the modules of the other layers. *Id.* It also provides application independence from evolving hardware. *Id.* A POSITA would recognize that many other architectural layouts were possible at the time of the priority date of the Patent, and others (e.g., objects, agents, microservices, etc., *See*, Ex-2005, ¶119) would be more beneficial at that time for the Phantasy Star Online game (to which the Manual is directed) than the software layer architecture as disclosed and claimed in the ‘941 Patent. Ex-2005, ¶118. As

such, not only does the Manual not explicitly disclose a QIE Module as a software layer, it also does not inherently disclose, describe, or otherwise suggest a QIE Module being a software layer. Ex-2005, ¶119.

In support of its position that the Manual discloses the claimed QIE Module, and without any explanation, the Petition cites the “Online Network Structure” diagram on labeled p.9 of the Manual (Ex-1008, reproduced below). Pet. 47. However, the Petition never discusses whether or where the Manual or the common knowledge of a POSITA actually discloses or otherwise teaches “a software layer.” For this reason alone, Petitioner’s arguments that the claims would be obvious in view of the Manual, alone or in combination with the common knowledge of a POSITA, must necessarily fail.



Further, nothing within this diagram teaches a software layer that receives, interprets, and manipulates second content to make it accessible on different types of devices for use within the thematic environment—i.e., the claimed QIE Module. Ex-2005, ¶121. Rather, the diagram simply explains to a user how to move the user's character between city blocks or ships within the game. *Id.* The disclosure of gameplay is not the disclosure of the software or hardware architecture that allows the gameplay to occur. Ex-2005, ¶114-115.

In support of its position, the Petition on p. 47 refers to the Crane Declaration Ex-1004, ¶238, but Crane does not explain how the Manual discloses anything about the underlying game software or hardware architecture, nevermind the software layer comprising the QIE Module. Further, Crane never explains how the “online network structure” diagram provided in the Petition (p. 45) teaches the QIE Module. Again, the Petition and Crane declaration make wholesale conclusory statements that are unsupported by any actual evidence and should, therefore, be given little, if any, evidentiary weight.

The Petition also fails to address how the Manual discloses that the QIE Module is a software layer that receives, interprets, and manipulates the second content to make it accessible on different types of devices for use within the virtual thematic environment. Petitioner’s supposition that “the game console such as Dreamcast can be of different hardware and/or software types” (Pet. 47) is without basis. It does not supply the Petition’s deficiencies on this issue. Ex-2005, ¶123. Contrary to Petitioner’s contention, the Manual itself explicitly teaches only one type of device, i.e., the software to which the gameplay manual is directed “the [Sega] Dreamcast console.” Ex-1008, p 2.

A POSITA would understand from the ‘941 Patent specification that examples of the claimed “different types of devices” included “a PC, a mobile terminal, such as a mobile computing device, a mobile phone, or a mobile data

organizer (PDA), operated by the user accessing the program remotely from the client (see FIG. 1), or any other digital device that has a screen and storage." Ex-1001, 13:7-12. A POSITA would not find any teaching or suggestion in the Manual for any type of device other than the Sega Dreamcast game console, as the Manual quite explicitly states that the game can only be played on a singular device—i.e., the Dreamcast console. Ex-1008, p.2; Ex-2005, ¶123.

Further, as discussed above in Section V.A.3, the phrase “different types of devices” should be construed to include the definition of “different” and the plural of the definition “type.” Ex-2005, ¶125, citing Ex-2007, pp.322,1274. In contrast, the Manual simply discloses a single type of console: the Sega Dreamcast game console. Ex-1008, p.2; Ex-2005, ¶124.

Further, the Manual does not teach or suggest to a POSITA that the QIE Module is “a software layer that receives, interprets, and manipulates second content so as to be accessible on different types of devices.” Ex-1001, claims 1 and 23, emphasis added; Ex-2005, ¶126. On the contrary, Crane states that the “Word Select” system shown in the Manual receives, interprets, and manipulates content “at the destination.” Ex-1004, ¶238. A POSITA would understand that the “destination” is a piece of hardware, i.e., the game console, however, and not the claimed QIE Module software layer. As explained by Medvidović, at the game console, the software can interpret for that game console, but the software on the

game console cannot interpret for any other game console type. Ex-2005, ¶126. Therefore, the software on the game console cannot be a QIE Module “software layer” that receives, interprets, and manipulates second content to make it be accessible on different types of devices. *Id.*

Further, Crane states that “[t]o publish a game on different platforms, the game program had to be configured to manipulate game content to work on different devices. As was well known in the art, the conventional method of making content available on different devices involved “creating a different version of the game for each device or at least different size and resolution images.” (Ex-1004 ¶82, emphasis added). With respect to Phantasy Star Online, Crane explains:

Q. Okay. If Phantasy Star Online wanted to be played on another console at the time, what would they, Sega, had to have done?

A. Sega would have had to rewrite the game for that console, adjusting for the programming language in that console, adjusting for the screen resolution of that console, the controllers, the audio system, the Sprite system, the rendering capability. All of the technical aspects of the Dreamcast would have to be rewritten, or what we would call back then ported, to a version that would work on that hypothetical next game you want to play it on, next console you want to play it on.

Ex-2011, 022624 Crane Deposition, 147:11-22. In contrast, the claimed QIE Module software layer receives, interprets, and manipulates the second content to make it accessible on different types of devices. See Ex-1001, claims 1, 23; Ex-2005, ¶127.

With respect to the claimed second content, Crane stated (Ex-1004, ¶231) that:

Secondary applications disclosed by PSO Manual include “Balloon Chat,” “Symbol Chat,” and “Simple Mail” (See ¶104 - ¶105) that generate content (e.g., a speech bubble) on the game screen having first content utilized within a same application environment as second content provided by the primary application as claimed.

Additionally, Crane noted (Ex-1004, ¶238, footnote excluded) that:

The “Word Select” feature...allowed a player to construct sentences to be sent via chat (second real-time information) to any destination around the world. The “Word Select” system at the destination receive, interpret, and manipulate the content for any device, translated into the language of the recipient.

As such, Crane plainly admitted that the “Word Select” is a secondary application. See Ex-2012, 397:22-25. As explained by Medvidović, a POSITA would understand from the specification (as discussed above in V.A.4.) that if the PSO’s Word Select is considered the secondary application, and if the text in the chat box is considered second real-time information, then interpreting the text in the chat box into other languages is not equivalent to the claimed QIE Module. Ex-2005, ¶¶51,130. This is because the QIE Module interprets and manipulates the second

content that is provided by the primary application. The claimed “second content” is not provided by the secondary application—i.e., Word Select. A POSITA would understand that the “second content” is not the same as second real-time information.

Id. An example from the specification of the ‘941 Patent is that the second content is a graphic of a virtual room in which a radio is located; an example of second real-time information is a song being played on the radio for the user. Ex-1001, 9:53-58; Ex-2005, ¶¶39,51,130. The Manual’s Word Select may interpret real-time information, but Word Select is the secondary application, not the primary application and cannot, therefore, meet the limitations found in the challenged claims. Ex-2005, ¶¶130-131.

A POSITA would understand that the Manual does not teach or suggest a “QIE module” that “receives, interprets, and manipulates the second content.” Even if the Manual shows that “second content” is being received, it does not teach or suggest that it is being interpreted and manipulated. The finite universe of constructed messages provided by the Word Select function (Ex-1008, p. 8 (labeled as p.12)) would not be understood by POSITA as being the claimed “second content” that is provided by the primary application, as contended by Petitioner. Ex-2011, 188:3-189:13; Ex-2005, ¶131.

Additionally, even if Crane’s supposition of “interpretation” of second content (Ex-1004, ¶238) is correct (even though he is actually referring to “second

real-time information”), such interpretation is not being conducted by the QIE Module (i.e., a software layer). Ex-2005, ¶131. Crane agreed. For example, the following exchange regarding the “word select” feature shown in the Manual exemplifies that the second content allegedly disclosed by the Manual is not received, interpreted, and manipulated by a QIE Module:

Q. Okay. So the content of the word select was predetermined, correct?

MR. WOO: Objection. Form.

THE DEPONENT: It was selected by a game player during play. How is that -- how is that predetermined?

Q. Did the player select from a drop-down menu, or did they type in a phrase?

A. They were selecting from a fixed set of possible chats.

Q. And your statement was, the word select system at the destination received, interpreted, and manipulated the content, and my comment -- my question was, where does the PSO manual describe where those three things occurred?

A. In the first place, it's the understanding of a person of ordinary skill in the art, if the manual says that I can chat with a person in Japan and they receive it in Japanese, that would be the disclosure you're looking for. I would have to find it. I don't know if I cite to it specifically. Yeah, up in the background section. I have to look through it though. So yes, I believe that a person of ordinary skill in the art would understand the

teachings of the PSO manual that his text is manipulated and interpreted and displayed in the language of the recipient, and that would necessarily happen at the recipient computer.

Q. Okay. Again, it was the word select system at the destination received it, interpreted it, and manipulated it?

A. Correct.

Q. My question is simply, could it have been at the originating player rather than at the destination?

A. That would not be the case. The originating computer doesn't necessarily know the language of the recipient.

Ex-2011, 188:3-189:13.

The above-quoted exchange demonstrates that any “interpretation” by the “Word Select” feature is performed at the “destination,” which is the recipient’s game console. As such, any interpretation by the “Word Select” feature takes place separately on each console, for only that console. Ex-2005, ¶132. Crane does not show how the “Word Select” feature is a software layer that receives, interprets, and manipulates the second content to make it accessible on different types of devices for use within the virtual thematic environment. Rather, Crane stated that the POSITA would understand that different hardware would require different software versions specifically written for each differing version of the Dreamcast console. Ex-2011, 129:1-17 (reproduced above).

Finally, Mr. Crane does not explain how the “Word Select” feature receives, manipulates, and interprets “second content” provided by the primary application as required by the challenged claims. Rather, Mr. Crane testified that the “Word Select” feature is a “secondary application.” Ex-2012, 397:22-25.

B. The Manual Alone, or in Combination with the Common Knowledge of a POSITA, Does Not Teach a Client System and a Server System Communicating to Provide an Interactive Software Application Platform.

Regarding challenged claims 23-26, a POSITA would understand that the Manual does not teach or suggest “a client system and a server system communicating to provide an interactive software application platform.” The Manual describes how to play a game and does not suggest “a client system” and a “server system” communicating to provide an interactive software application platform. Ex-2005, ¶139.

Mr. Crane stated that the Manual discloses that the PSO game operated in a client-server configuration because it required users to log into the “PSO server” with a serial number and access key. Ex-1004, ¶¶98,278, referring to Manual, p.8. However, this disclosure does not indicate a client system” and a “server system” communicating to provide an interactive software application platform as a POSITA would recognize that many other architectural layouts are possible, and, in fact, other architectural layouts than client/server would be more beneficial at that time for this

type of game. Ex-2005, ¶139. For example, the user may register with the server but then communicate directly with the other players by gaming console to gaming console. *Id.* The Manual is silent as to the choice of computer architecture. *Id.*

There are a range of possible architectural choices for such a game that were known in the relevant time frame. Ex-2005, ¶136. The game could have been implemented, among other possibilities, using an N-tiered solution (similar to Pisanich above), an event-driven architecture, a model-view-controller (MVC) based architecture, or even a straight object-oriented architecture. *Id.*

As discussed in *Arendi* and *Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1338 (Fed. Cir. 2020), common knowledge can be used to supply a missing limitation in limited circumstances. But, these circumstances require that the missing limitation is (1) unusually simple and the technology particularly straightforward, or (2) supported by evidence and reasoned analysis. In this case, Petitioner is attempting to supply a missing limitation without providing any evidence or reasoned analysis to corroborate Crane’s testimony as to limitations in the challenged claims that cannot be found in the allegedly prior art Manual.

Regarding limitation 23[f], a POSITA would understand that the Manual does not teach or suggest the QIE Module “being a software layer” as described above in relation to challenged independent claim 1. Also, regarding limitation 23[f], a POSITA would understand that the Manual does not teach or suggest a QIE Module

software layer configured to receive and interpret the “first content and second content” as described above in relation to claim 1.

For the foregoing reasons, Petitioner has failed to chin the bar in proving that the challenged claims are unpatentable as being obvious in view of the Manual. In particular, Petitioner has failed to show that the Manual, alone or in combination with the knowledge of POSITA, discloses a “QIE module being a software layer that receives, interprets, and manipulates the second content so as to be accessible on different types of devices for use within the virtual thematic environment.” Petitioner has (1) failed to show that the claimed QIE Module and its receipt, interpretation, and manipulation functionality is within the scope and content of the prior art, and (2) failed to meet its burden to show any differences between the claimed subject matter and the prior art, both of which are required by *Graham*. For all of these reasons, it is respectfully submitted that challenged independent claims 1 and 23 are not obvious over the Manual alone or in view of knowledge of a POSITA.

C. Petitioner Fails to Show That the Manual is Authenticated or is Actually a Printed Publication Under 35 U.S.C. §102 and Available as Prior Art to the ‘941 Paten

Exhibit 1008, the Manual, is not properly authenticated because Petitioner has not presented evidence that the document is what it purports to be—namely, a document shipped along with the *Phantasy Star Online* video game for Sega

Dreamcast before the priority date of the ‘941 Patent. As such, Petitioner has failed to establish that the Manual is a prior art printed publication.

Mr. Harry’s testimony is the sole basis in the record for Petitioner’s assertion that (1) the Manual is prior art, and (2) Exhibit 1008 is a true and correct copy of the Manual allegedly “published” in 2000. *See* Ex-1009, ¶¶11–12. Mr. Harry describes himself as “an analyst with Global Technology Transfer Group (‘GTT’)” and a registered U.S. patent agent “with fifteen years of experience in the patent practice, including drafting and prosecuting patents and ensuring positive relationships, with a wide range of clients.” *See id.*, ¶2; Ex-1009. Mr. Harry is neither a records custodian for Sega nor the person responsible for archiving or retrieving Sega’s video game manuals or versions thereof. Notably, Mr. Harry did not testify that he consulted with people who were records custodians of Sega in preparing his declaration. Further, Mr. Harry did not testify that he had any knowledge of Sega’s video game packaging and distribution practices at the time *Phantasy Star Online* was purportedly sold or distributed.

Mr. Harry testified that he ordered a copy of the *Phantasy Star Online* videogame, which purportedly included a copy of the Manual, for the Sega Dreamcast gaming console from an individual seller on the e-commerce website eBay. *Id.*, ¶6. There is nothing to suggest that the individual seller from which Petitioner obtained the video game and Manual is trustworthy. Nothing in the record

indicates the individual seller's particular business practices, for example, whether he obtains one or more items separately and then seals them together to create the products he sells on eBay. Mr. Harry stated in his cross-examination that he did not know the seller. Ex-2013, 26:22-24 Ex-2010, ¶8.

Additionally, Mr. Harry acknowledged that there were marks on the front and back of the Manual that could be due to wear (Ex-2013, 54:7-55:2, 61:12-62:3), contrary to his unequivocal statement that the Manual was part of an unopened game "original from the factory." Ex-1009, ¶8. There is no known explanation for these marks on the Manual besides supposition from Mr. Harry, who admitted to not having expertise beyond that of a consumer regarding the game packaging. Ex-2013, 42:2-16. Rather than this being the original manual with the game, it is equally possible that this copy of a manual was joined with a copy of a game and re-packaged sometime in the last twenty-three years since the supposed origination. There is no evidence that this particular manual was ever publicly available before the priority date of the patent at issue.

Accordingly, Mr. Harry's testimony that "the cellophane wrap appeared to be intact and original from the factory" (Ex-1009 at ¶8) is not credible, given the wear marks shown on the manual. Similarly, as he testified in his Declaration, Mr. Harry has no personal knowledge of whether "the manual would have been provided by SEGA with all copies of PSO that were sold." Ex-1009, ¶12. To the extent that Mr.

Harry is deemed competent to offer any testimony, such testimony would be limited to his opinion that Exhibit 1008 is identical to the document he received with his eBay order. Further, Mr. Harry did not confirm or deny whether multiple versions of the Manual were associated with the *Phantasy Star Online* game or whether the Manual was updated at different times to reflect corrections of errors or upgrades to the video game. Mr. Harry's testimony is incompetent to offer the Manual as prior art in this proceeding.

Further, the copyright notice relied on by the Petitioner to evidence the publication date is hearsay, not falling within any exception, and has no guarantees of trustworthiness. A copyright notice alone is insufficient to establish public accessibility as of a particular date. *See ServiceNow, Inc. v. Hewlett-Packard Co.*, IPR2015-00716, Paper 13 at 17 (“[w]e are not persuaded that the presence of a copyright notice, without more, is sufficient evidence of public accessibility as of a particular date.”) (citing *LG Electronics, Inc. v. Advanced Micro Devices, Inc.*, IPR2015-00329, Paper 13 at 10–13).

Petitioner attempts to overcome the hearsay deficiency of its evidence by bolstering its contention with other, admittedly “circumstantial,” evidence, including its reference to promotional advertising and copyright statements about the game Sonic Adventure 2, referenced on the last page of the Manual (Ex-1008, p.19), and other video game industry publications concerning *Phantasy Star Online* game. *See*

Pet., 37–38, n. 4. However, this “circumstantial evidence” is unrelated to the Manual itself—i.e., the Manual and its date of existence is wholly unrelated to the Sonic Adventure 2 video game or the video game industry publications concerning the existence of the *Phantasy Star Online* game.

Moreover, the Petitioner has not submitted any evidence to establish that the Manual qualifies as a printed publication pursuant to §102. *See* MPEP §2128 (“A reference is proven to be a ‘printed publication’ ‘upon a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.”); *Elec. Frontier Foundation v. Personal Audio, LLC*, IPR2014-00070, Paper 21 at 20–24 (PTAB Apr. 18, 2014) (petitioner bears the burden of proving that a reference is a printed publication). Petitioner claims that the “PSO Manual was distributed publicly at least as early as March 31, 2001,” relying on a purported copyright notice that appears near the end of the Manual. Pet. 36–37. However, Petitioner provides no proof of the publication of the Manual beyond this copyright notice, and its attempts to prove that the Manual was available because the PSO software was allegedly sold at certain periods of time must also fail as circumstantial.

The Petition fails to identify “with particularity” the evidence it contends shows a reasonable likelihood that the Manual is a printed publication. *See* MPEP

§2128. Petitioner's evidence lacks particularity, as Petitioner does not provide any information on how the Manual would have been disseminated or otherwise made available to the extent that a POSITA, as defined by Petitioner (Pet. 10), can locate it. Here, the Petitioner has merely produced an unclear copyright notice that appears to be referencing the game (Ex-1008, p. 33) and not the Manual. As discussed above, Petitioner's other "circumstantial" evidence is also unavailing.

Ground 2 should be denied because the Petitioner has failed to properly authenticate the Manual and, additionally, has failed to provide the required information to show that it is a prior-art printed publication.

VII. PETITIONER FAILS TO SHOW THAT THE ALLEGED COMMON KNOWLEDGE OF THE POSITA WAS KNOWN AT THE TIME OF THE PRIORITY DATE

Contrary to requirements laid out in *Arendi* (948 F.3d at 1337), neither Petitioner nor Crane provided any evidence showing that the various Exhibits and discussion provided in ¶¶72-84 of Crane's declaration (Ex-1004), as common knowledge of a POSITA, were publicly available before the March 22, 2004 priority date. Rather, Crane cited various websites such as <https://www.mobygames.com> and https://en.wikipedia.org/wiki/Microsoft_Flight_Simulator_3.0 to support his conclusions. *See*, fn. 1-7 in Ex-1004, pp.29-34. However, these documents should be given very little, if absolutely no, evidentiary weight because Petitioner has not

presented any evidence to show that any of these documents or knowledge was publicly available prior to March 22, 2004.

With respect to Wikipedia, Crane testified that he “does not rely on it” because “I have heard that it’s very open.” Ex-2011, 93:20-94:19. With respect to “MobyGames,” Crane acknowledged that this website is “modified over time.” Ex-2011, 92:18. In fact, mobygames.com explicitly tracks when its users actually uploaded the various flight simulator images reproduced and referenced by Crane. For example, the image shown as “Microsoft Flight Simulator 2000”⁷ at ¶74 of Ex-1004 was uploaded on January 19, 2009 (see Ex-2014; Ex-2010, ¶9), i.e., well after the March 22, 2004 priority date. And, while Crane testified that he has “never found anything on it that was erroneous” Ex-2011, 92:18-19, his understanding was that there are “peer reviewers” that “review that and kind of fight over it and decide what date they’re going to put on.” *Id.*, 92:16-17. All of the other images in ¶¶74,78,83 of Crane’s declaration were also uploaded after the priority date of the ‘941 Patent.

Crane’s reliance on the Wikipedia and Moby Games websites in an attempt to show the common knowledge of the POSITA is misplaced. More troubling, it evinces a fundamental misunderstanding of what information is available to a

⁷ <https://www.mobygames.com/game/3341/microsoft-flight-simulator-2000/screenshots/windows/351054/>

POSITA in making an obviousness determination. Other than Crane's apparent belief in the trustworthiness of MobyGames's unknown users, there is no evidence to suggest that the images he found there and excerpted in ¶¶74,78,83 in Ex-1004, were publicly available before the March 22, 2004, priority date. Crane admitted that he did not cite any information to indicate that the flight simulator programs in his declaration were well-known prior to March 22, 2004. Ex-2011 at 125:11-18.

Petitioner has not supplied any evidence of record to corroborate Crane's testimony regarding the common knowledge of POSITA before the priority date and certainly not with respect to the information provided in ¶¶74,78,83 in Ex-1004. For these reasons, Crane's testimony as to the knowledge of a POSITA in the relevant time period cannot be corroborated. The Board should afford it little or absolutely no evidentiary weight. *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 16 (precedential).

VIII. ALL REMAINING CLAIMS THAT RELY ON PISANICH AND THE MANUAL FAIL FOR THE SAME REASONS GIVEN FOR CHALLENGED INDEPENDENT CLAIMS 1 AND 23

Claims 3, 5, 7–12 depend on independent claim 1, and claims 24–26 depend on independent claim 23. Because Pisanich and the Manual do not render obvious independent claims 1 and 23, they cannot render obvious dependent claims 3, 5, 7–12, and 24–26.

IX. THE PETITION FAILS TO ADDRESS MANY ADDITIONAL ELEMENTS FOUND IN THE CHALLENGED INDEPENDENT CLAIMS THEREBY REQUIRING THE BOARD TO UPHOLD THEIR PATENTABILITY

Petitioner wholly failed to address the underlined language of the following limitations/elements of challenged independent claim 23:

- On p. 33 of the Petition, regarding limitation 23[b], Petitioner simply refers to its analysis of limitation 1[a] (Pet. 17-19), but the claims have different claim terms and phrasing. Within its analysis, Petitioner fails to address the claim elements “to constitute” a virtual thematic environment.
- On p. 34 of the Petition, regarding limitation 23[e] of “the primary application receiving and using first real-time information to provide the second content, the secondary application receiving and using second real-time information to provide the first content, the first real-time information being different from the second real-time information;” Petitioner simply incorporates arguments from limitation 1[b] (Pet. 42-44). However, the underlined text above does not appear in limitation 1[b]; therefore, Petitioner’s arguments concerning limitation 1[b] are insufficient to show that Pisanich discloses all of the elements of limitation 23[e].

Therefore, Patent Owner respectfully requests that the Board find that all of the challenged claims of the ‘941 Patent are valid and patentable in light of the prior art cited by the Petitioner in its Petition.

X. CONCLUSION

For the reasons above, Petitioner's proposed grounds of unpatentability fail. Patent Owner requests the Board determine the challenged claims have not been shown to be unpatentable.

Case No. IPR2023-00995
Patent 10,846,941

Date: March 18, 2024

Respectfully submitted,

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Case No. IPR2023-00995

Patent 10,846,941

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. §42.24(d), the undersigned hereby certifies that the foregoing Patent Owner's Preliminary Response contains 13,918 words using the word count feature of Microsoft Word.

Dated: March 18, 2024

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6(e), the undersigned hereby certifies that the above-captioned Patent Owner Response, and its cited exhibits, were served via electronic mail, as authorized by Petitioner's Mandatory Notices, at the following email correspondence addresses of record:

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