

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 IPR2023-00959
Patent 10,255,724

PATENT OWNER'S OBJECTIONS TO PETITIONER'S EVIDENCE
37 C.F.R. §§42.62, and 42.64

Pursuant to Pursuant to 37 C.F.R. §§42.62, and 42.64, and the Federal Rules of Evidence, as applied by the Board, Patent Owner Quantum Imaging LLC (“Quantum”) provides the following objections to evidence submitted by Petitioner Sony Interactive Entertainment LLC (“SIE”). These objections are timely served within ten (10) business days.

Quantum serves SIE with these objections to provide notice that Quantum may move to exclude the challenged evidence under 37 C.F.R. § 42.64(c) unless SIE cures the defects associated with the challenged evidence identified below. That Quantum has not objected below to certain pieces of evidence or certain portions of certain evidence provides no indication that Quantum agrees to the positions asserted therein. In addition, Quantum reserves the right to present further objections to this or additional evidence submitted by SIE, as allowed by the applicable rules or other authority.

1. PATENT OWNER’S OBJECTIONS TO EVIDENCE

Exhibit 1004 – Declaration of David Crane

Patent Owner objects to the Declaration of David Crane (“Declarant”) Exhibit 1004 under Fed. R. Evid. 106, 401–403, 602, 702–703, 705, 901-902 and 37 C.F.R. § 42.63, § 42.65(a), and § 42.104(b)(5). Patent Owner specifically objects to (1) paragraphs 72, 75, 76, 77, 79, 81, 84, 176-179, and 183 of Exhibit 1004 on the

grounds that they lack authentication and foundation under Fed. R. Evid. 602 and 901-902 and are an improper form of evidence under 37 C.F.R. § 42.63; (2) paragraphs 18, 71, 72-75, 78-86, 93, 99, 102-103, 107, 126, 128-130, 132, 136, 140-141, 147, 152, 157, 161-162, 176-179, 183-184, 186-187, 190-191, 193, 201-204, 213-214, 216, 218, 222, 233-235, 246, 248, 251, 253-254, 257-258, 278-279, 286, 290, 311-312, 321-323, and 334 of Exhibit 1004 on the grounds that they are irrelevant, misleading, unduly prejudicial, and confusing under Fed. R. Evid. 401–403, 702-703, and 705; (3) paragraphs 90-92, 94-96, 98, 104-106, 118-119, 122, 124, 134, 137-138, 150, 247, 168, and 300-301 on the grounds that they contain “[e]xpert testimony that does not disclose the underlying facts or data on which the opinion is based” in violation of 37 C.F.R. § 42.65(a) and Fed. R. Evid. 702–703, and 705; and (4) paragraphs 1-4, 21-40, 45, 58-69, 87-88, 108, 133, 175, 199, 217, 219, 225, 228, 252, 261, 284, 287, 292, 297, 317, 319, 329, 332, and 336-337 on the grounds that they are not cited to or relied upon by the Petition (Paper 2) in violation of 37 C.F.R. §42.104(b)(5). These evidentiary failures cannot be cured because Petitioner is time-barred from filing another Petition under 35 U.S.C. §315(b). As explained above, the fact that Patent Owner has not objected to certain paragraphs of Exhibit 1004 provides no indication that Patent Owner agrees to the positions asserted therein.

2. Objections to Evidence in Improper Form and Lacking

Foundation and Authentication

Patent Owner objects to paragraphs 72, 75, 76, 77, 79, 81, 84, 176-179, and 183 of Exhibit 1004 under Fed. R. Evid. 901-902 as there has not been a sufficient foundation laid for the admission of the evidence alleged to support the statements and images appearing in these paragraphs. The Petitioner has not submitted required witness testimony or evidence to demonstrate that the evidence cited in these paragraphs is authentic, and it is not self-authenticating. No declarant has personal knowledge under Fed. R. Evid. 602 of the evidence's creation, authorship, or any other required foundational aspect of this evidence.

Specifically, the image appearing after paragraph 72 allegedly from candystand.com is not authenticated nor is there any foundation for admission of this evidence, which has not been properly submitted in the form of an exhibit, as required under 37 CFR § 42.63.

Further, the evidence relying on the citation to "the 1996 Doubleclick citation" in paragraph 75 is not authenticated nor is there any foundation for admission of this evidence, which has not been properly submitted in the form of an exhibit, as required under 37 C.F.R. § 42.63.

Further, the evidence relying on the citation to “https://macromedia.fandom.com/wiki/Macromedia_Shockwave_Player” in paragraph 76 is not authenticated nor is there any foundation for admission of this evidence, which has not been properly submitted in the form of an exhibit, as required under 37 C.F.R. § 42.63.

Further, the evidence relying on the citation to “<https://www.awn.com/animationworld/shockwavecom-fun-and-games-high-flying-hub>” in paragraph 77 is not authenticated nor is there any foundation for admission of this evidence, which has not been properly submitted in the form of an exhibit, as required under 37 C.F.R. § 42.63.

Further, the images appearing after paragraph 79 allegedly from Liefesavers Candystand, and Nabiscoworld.com are not authenticated nor is there any foundation for admission of this evidence, which has not been properly submitted in the form of an exhibit, as required under 37 CFR § 42.63.

Further, the image appearing after paragraphs 81 and the evidence cited in paragraph 183 allegedly from <https://www.youtube.com/watch?v=o3uiyixWJME&list=PLg8EOzsV9fh5zSfnOeBnToDf7rNdapH50&index=5&t=5s> and <https://www.ign.com/articles/2003/12/01/bmw-x3-online-game-playable-now> is

not authenticated nor is there any foundation for admission of this evidence, which has not been properly submitted in the form of an exhibit, as required under 37 CFR § 42.63.

Further, the evidence relying on the citation to “<https://www.webdesignmuseum.org/old-software/web-browsers/netcape-navigator-2-0>” in paragraph 84 is not authenticated nor is there any foundation for admission of this evidence, which has not been properly submitted in the form of an exhibit, as required under 37 C.F.R. § 42.63.

Further, the evidence relying on the citations to “https://web.archive.org/web/19961027104920/http://www3.netscape.com/newsref/std/cookie_spec.html”, https://web.archive.org/web/19961027104907/http://www3.netscape.com/newsref/std/SSL_old.html”, <https://web.archive.org/web/19961027104859/http://www3.netscape.com/newsref/std/SSL.html>, and “[netscape.com/newsref/std](https://web.archive.org/web/19961027104859/http://www3.netscape.com/newsref/std/SSL.html)” in paragraph 176-179 is not authenticated nor is there any foundation for admission of this evidence, which has not been properly submitted in the form of an exhibit, as required under 37 C.F.R. § 42.63.

3. Objections to Irrelevant, Misleading, Unduly Prejudicial
and Confusing Testimony

Patent Owner objects to Exhibit 1004 as unsupported and conclusory testimony that is irrelevant, misleading, unduly prejudicial, and confusing under Fed. R. Evid. 401–403 and purported expert opinion that is pure speculation in violation of Fed. R. Evid 702, 703, and 705 and fails to disclose the underlying basis in violation of 37 C.F.R. § 42.65(a). Specifically, Patent Owner objects to paragraphs 18, 71, 72-75, 78-86, 93, 99, 102-103, 107, 126, 128-130, 132, 136, 140-141, 147, 152, 157, 161-162, 176-179, 183-184, 186-187, 190-191, 193, 201-204, 213-214, 216, 218, 222, 233-235, 246, 248, 251, 253-254, 257-258, 278-279, 286, 290, 311-312, 321-323, and 334 for relying on conclusory statements that are unsupported by factual evidence and which is pure speculation and/or unsupported by facts or data of a type reasonably relied upon by experts in the field in order to form the opinion or inferences made therein.

In paragraph 18, Declarant purely speculates, without providing any supporting evidence, “More than 50 of the games noted in my CV (those listed as “Online Games”) integrated advertising into the browser page serving the game, integrated advertising into the game itself, or both. More than a dozen of these games integrated advertising into the game-playing experience prior to the year 2002.”

In paragraph 71, Declarant purely speculates, without providing any supporting evidence, “In my opinion, as of the ‘724 patent’s effective filing date a POSITA would have been aware of various different types of software, programming languages, and applications related to the subject matter of the ‘724 patent. Some of this background knowledge is discussed here.”

In paragraph 72, Declarant purely speculates, without providing any supporting evidence, “It was well known at the time of the effective filing date of the ‘724 patent for businesses to reach consumers of their products through the sponsorship of entertainment products. This dates back to the early days of television, with companies such as Colgate-Palmolive, for example, paying for the production of television shows in order to reach a captive audience. This practice translated to interactive entertainment software as early as the mid 1990s when companies such as the Lifesavers Candy Company sponsored online gaming sites.”

In paragraph 73, Declarant purely speculates, without providing any supporting evidence, “A POSITA would have understood that the incorporation of sponsored content into an interactive experience was a form of advertising. More generically, an advertiser whose ads appear as part of a game or other form of media would be known as a sponsor of said content.”

In paragraph 74, Declarant purely speculates, without providing any supporting evidence, “To the best of my knowledge, online advertising has been around since the beginning of the World Wide Web. The top-level domain “.com” refers to a website address representing a “commercial” presence on the Web. A commercial presence on the Web primarily exists to perform business-related operations. A common business-related operation supported by the Web is the advertising of goods and services. Prior to March 2004/October 2002, a POSITA would have experienced at least a decade of online advertising served across the Internet.”

In paragraph 75, Declarant purely speculates, without providing any supporting evidence, “Since at least the mid 1990s, online advertisements have taken many forms, such as for example, web banner ads served by companies created to automate the process of serving ads to web pages. . . . One primary function of banner ads was the ability to redirect a user to the advertiser’s web site with a single click of the mouse. This allowed the advertiser to capture information about any consumer who showed interest in its product or services.”

In paragraph 78, Declarant purely speculates, without providing any supporting evidence, “Note that a Web Browser is a computer program that resides on a player’s personal computing device. The Shockwave and/or Flash plug-ins were

downloaded from Macromedia and automatically installed as part of the browser program functionality. Prior to the priority date of the '724 patent, the Shockwave plug-in was installed in the browser programs on millions of computers, turning each browser program into a game-playing program. The playing of browser-based games was well known in the art.”

In paragraph 79, Declarant purely speculates, without providing any supporting evidence, “Many browser-based games featuring virtual thematic environments were available to be played prior to the effective filing date of the '724 patent.”

In paragraph 80, Declarant purely speculates, without providing any supporting evidence, “It was well known in the art that other objects in such games were controlled by AI engines, simulating the play of non-player characters in the game. Opposing cars or motocross riders, for example, played the game alongside the human player under the control of the AI and interfered with his or her progress as an integral part of the game play. As the author of these example browser games, I can attest that at least four of the examples cited above contained an Artificial Intelligence (AI) engine which controlled behavior of objects.”

In paragraph 81, Declarant purely speculates, without providing any supporting evidence, “Browser-based gaming continued to evolve to support

unbounded 3D environments with the launch of Shockwave 3D (using Macromedia Director 8.5) circa 2001.”

In paragraph 82, Declarant purely speculates, without providing any supporting evidence, “Each of the games reproduced here (as well as many others from the mid 1990s through the early 2000s) represented a virtual environment in which the players’ avatar moved about obstacles in racing-themed environments complete with signage and billboards; and each was played using a standard Web Brower with the Shockwave plugin.”

In paragraph 83, Declarant purely speculates, without providing any supporting evidence, “It was also well known in the art prior to the effective filing date of the ‘724 patent for different consumer computing devices to be loaded with a Web Browser program specifically tailored to each type of device.”

In paragraph 84, Declarant purely speculates, without providing any supporting evidence, “Each of the games shown above could be played on multiple browsers, on multiple computer systems, manipulated to be displayed on different display monitors, and compatible with different input devices.”

In paragraph 85, Declarant purely speculates, without providing any supporting evidence, “Any computer running any of the aforementioned operating

systems could run a game on Netscape Navigator 2.0, and the browser was configured to interpret and manipulate the gaming content for each device.”

In paragraph 86, Declarant purely speculates, without providing any supporting evidence, “Thus, in addition to facilitating virtual thematic game play, at the time of the effective filing date of the ‘724 patent a Web Browser module also interpreted content such that the content was manipulated so as to be accessible on different types of devices.”

In paragraph 93, Declarant purely speculates, without providing any supporting evidence, “As shown, customized advertisements can be served from an advertiser’s computer to a consumer’s computer. This occurs in a system whereby content such as an electronic game, is served from a content provider computer.”

In paragraph 99, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “A POSITA was aware that such a Web Browser Module was capable of publishing to the consumer a virtual environment, and to allow a user to interact within said virtual environment (See IX.A.3).”

In paragraph 102, Declarant purely speculates, without providing any supporting evidence, “Thus, Angles teaches exiting a virtual environment upon a predetermined action (i.e., selection with a mouse).”

In paragraph 103, Declarant purely speculates, without providing any supporting evidence, “Once a player has been transported to an advertiser’s website, data is grabbed from the advertiser’s website that will be used within the virtual environment.”

In paragraph 107, Declarant purely speculates, without providing any supporting evidence, “[t]hus, Angles teaches that data grabbed from an advertiser’s website is utilized in the virtual environment to display different advertising content.”

In paragraph 126, Declarant purely speculates, without providing any supporting evidence, “The act of choosing a virtual body to be used in a virtual walkthrough with other avatars requires that the system grab data or objects from a website external to the virtual thematic environment, to be utilized in the virtual thematic environment.”

In paragraph 128, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “As noted in section IX.A.1 above, including sponsored content into an interactive environment would have been understood by a POSITA as a form of customized advertising as taught by Angles. . . . As with the ‘724 patent, Angles teaches integrating externally-sourced content into an electronic game, as well as

teaching connecting and navigating to an advertiser's website in order to purchase goods and services.”

In paragraph 129, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “A POSITA would have been motivated to combine and collectively consider the teachings of Angles with his knowledge of the state of the art of advertising in video games (See Section IX.A: Background Information) to arrive at the subject matter claimed by the ‘724 patent.”

In paragraph 130, Declarant purely speculates, without providing any supporting evidence, “Additionally, the exemplary systems disclosed in both Angles and the ‘724 patent serve interactive content in a substantially similar manner, transmitting said content from a server computer over a network such as the Internet to a client computer. Not only would a POSITA have been motivated to combine and collectively consider the teachings of Angles with well-known industry knowledge to arrive at the subject matter claimed by the ‘724 patent, he would have had a reasonable expectation of success when doing so.”

In paragraph 132, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “Angles teaches providing a virtual thematic environment in the

form of a consumer computer equipped with a Web Browser in communication with a content provider computer that integrates customized advertisements into offerings such as on-line games, virtual reality environment, etc., such as interactive car races (See ¶96 and ¶97). Online games, virtual reality environments, and interactive car races are consistent with the Court’s construction of a ‘virtual thematic environment’ as ‘a theme-based virtual computer interface.’”

In paragraph 136, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “As noted in section IX.A.3, a POSITA would have recognized a Web Browser to be a gaming application capable of implementing a virtual thematic environment, complete with virtual thematic environment rules configured for a gaming environment. The Web Browser enables the user to interact within the virtual thematic environment by playing on-line games such as interactive car races or to interact within virtual reality environment. It was well known in the art that interactions between objects in a virtual gaming environment were subject to environmental rules, including rules that govern gravity, terrain-following, and collisions with other objects, walls, and such.”

In paragraph 140, Declarant purely speculates, without providing any supporting evidence, “Moreover, the core function of the invention disclosed by

Angles teaches how to integrate custom advertisements into signs and billboards displayed in online content including on-line games such as interactive car races. The data represented by said advertisements are grabbed from a website external to the virtual thematic environment, to be utilized in the virtual thematic environment.”

In paragraph 141, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “Angles also disclosed grabbing program data. It was well known in the art prior to the effective filing date of the ‘724 patent for a Shockwave game (See Section IX.A.3) to “sniff” the Web Browser to determine if the browser was equipped with the Shockwave plugin; and if not initiate the download of said plugin from external servers maintained by Shockwave.com. Angles teaches the grabbing of program data from a website external to the virtual thematic environment to be utilized in the virtual thematic environment for merging advertisements.”

In paragraph 147, Declarant purely speculates, without providing any supporting evidence, “As an initial matter, a POSITA would have considered it obvious that in order to display and interact with a virtual reality gaming environment as required by claim 1[b], the consumer computer must necessarily store and manage the content required by said virtual reality gaming environment.

Moreover, a POSITA would have understood that a digital storage module must necessarily manage the data stored within. And when managing stored content to be used in a virtual thematic environment, said storage module would provide a content management service.”

In paragraph 152, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “In the browser-based gaming system taught by Angles, each device’s Web Browser module is tasked with manipulating the display of and interaction with the virtual environment content to make it compatible with the capabilities of each device (See ¶¶83 - 86 of Section IX.A.3). In doing so, the Web Browser module taught by Angles performs the function described by the quantum imaging module, interpret[ing] content such that said content is manipulated and accessed by any device as claimed.”

In paragraph 157, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “As was well known in the art, in the browser-based gaming system taught by Angles, each device’s Web Browser module implemented a graphical user interface taking user input through keyboard, mouse, or touchscreen and displaying content graphically on the consumer computer’s screen (See ¶79).”

In paragraph 161, Declarant purely speculates, without providing any supporting evidence, “An advertiser whose ads appear as part of a game or other form of media would be known as a sponsor of said content (See ¶73). The purchase of goods and services offered for sale is a transaction. Thus, the tracking of consumer views of custom advertisements teaches the claimed accounting of sponsor and users and transactions.”

In paragraph 162, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “Moreover, Angles teaches how to integrate custom advertisements into signs and billboards displayed in online content including on-line games such as interactive car races (See ¶97), collecting content in real-time and injecting said content into the virtual thematic environment as claimed.”

In paragraph 176, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “In addition, Angles specifically disclosed the use of a secure network (See Claim 6 above). At 6:64 Angles incorporates by reference the Cookie specification document located at: http://www.netscape.com/newsref/std/cookie_spec.html. A 1996 capture of cookie_spec.html contains additional detail, stating: “If a cookie is marked secure,

it will only be transmitted if the communications channel with the host is a secure one. Currently this means that secure cookies will only be sent to HTTPS (HTTP over SSL) servers.”

In paragraph 177, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “Thus, Angles teaches the use of HTTPS for its communications, including all of the security features incorporated in the HTTPS standard using SSL servers. A specification for SSL can also be found at the same [netscape.com/newsref/std](https://www.netscape.com/newsref/std) url from 1996 noting that a base function of SSL is the claimed authentication: “The SSL Protocol is designed to provide privacy between two communicating applications (a client and a server). Second, the protocol is designed to authenticate the server, and optionally the client. SSL requires a reliable transport protocol (e.g. TCP) for data transmission and reception.”

In paragraph 178, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “Links found at the same [netscape.com/newsref/std](https://www.netscape.com/newsref/std) url from 1996 provide descriptions of what security was provided at the time by version 3.0 of the Secure Socket Layer (SSL) Protocol, stating: “SSL VERSION 3.0, DATED

MARCH 1996 ... is a security protocol that prevents eavesdropping, tampering, or message forgery over the Internet.”

In paragraph 179, Declarant purely speculates, without providing any supporting evidence, “Thus, Angles disclosed incorporating security features from the SSL Protocol to provide anti-cheating mechanisms as claimed, including the prevention of eavesdropping, tampering, or message forgery.”

In paragraph 183, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “In addition, Angles teaches serving advertisements into virtual environments like interactive car races. Virtual car races were well known in the art prior to the effective filing date of the ‘724 patent (See IX.A.3). The simulation of real-world physics was a large part of the attraction of car racing games. For example, the description of the “BMW X3 Adventure” game highlighted the use of real-world physics: “The BMW X3 Adventure offers unparalleled realism for an on-line promotional game, such that the precise physics of the car -- including the weight of the car, the length of its axles, its center of gravity, etc. - - were taken into account so that players feel they are really handling an X3 in an outdoor environment.”

In paragraph 184, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “Thus, it would have been obvious to a POSITA in view of Angles’ disclosure of an interactive, virtual car racing game that the claimed physics engine would necessarily be a part of the simulation. This claim is rendered obvious in view of the knowledge of a POSITA.”

In paragraph 186, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “As with the reliance on real-world physics in car racing games as described for claim 9, many of the same games were well known prior to the effective filing date of the ‘724 patent featured AI-controlled opponents in the game (See ¶80).”

In paragraph 187, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “Thus, it would have been obvious to a POSITA in view of Angles’ disclosure of an interactive, virtual car racing game that the claimed Artificial Intelligence (AI) engine which controls behavior of objects would necessarily be a part of the simulation to control non-player-operated race cars. This claim is rendered obvious in view of the knowledge of a POSITA.”

In paragraph 190, Declarant purely speculates, without providing any supporting evidence, “Not only would a POSITA have been motivated to combine and collectively consider the teachings of Angles with well-known and disclosed applet technology, he would have had a reasonable expectation of success when doing so.”

In paragraph 191, Declarant purely speculates, without providing any supporting evidence, “Thus, this claim would either have been rendered obvious based on the use of well-known and disclosed applet technology, or it would have been disclosed in view of the teachings of Angles.”

In paragraph 193, Declarant purely speculates, without providing any supporting evidence, “As noted for claim 1[d], a POSITA would have considered it obvious that in order to publish a virtual reality gaming environment the consumer computer 12 must necessarily contain a storage facility to store the content required by said virtual reality gaming environment (See ¶150). As disclosed by Angles, the customized advertisement may be stored on the consumer computer that is retrieved by the consumer control module of the consumer computer when directed to do so. Said storage facility would provide storage for all thematic content required in the virtual thematic environment as claimed.”

In paragraph 201, Declarant purely speculates, without providing any supporting evidence, “Regarding the additional limitations of this claim, the POSITA in this case has at least a general knowledge of 3D rendering and virtual reality, such as the virtual car racing game disclosed by Angles. He or she would have understood how a virtual environment is defined in the memory of a computer in order to be rendered to a game client. Any POSITA with a rudimentary understanding of a virtual environment would understand that objects in a virtual world are defined with shape, position, orientation, and other visual and ‘physical’ attributes. The definition of an object in the virtual environment would be the claimed rule set.”

In paragraph 202, Declarant purely speculates, without providing any supporting evidence, “A simple example from a racing game would be a billboard positioned alongside the road. Said billboard has a defined shape, position, and orientation. It may or may not have a default image on its face, but in either case Angles teaches combining a customized advertisement with the virtual content. In the case of said billboard, that would entail combining the defined and positioned billboard with an advertisement overlayed on the face of the billboard (at the proper position and orientation).”

In paragraph 203, Declarant purely speculates, without providing any supporting evidence, “In this example, the racing game is the claimed thematic application / publishing / game logic and scripting component, processing the game logic and controlling the game as scripted by the programmer. A POSITA would understand that the shape and orientation of the billboard in the virtual environment are defined in the source code and are governed by a rule set. A POSITA would understand that the claimed **data from an external source** would be the image data retrieved from the advertiser computer overlayed (combined) onto the face of the billboard.”

In paragraph 204, Declarant purely speculates, without providing any supporting evidence, “A POSITA would understand the net result of said combination would result in modifying the virtual thematic environment by combining data from a rule set with data from external sources as claimed.”

In paragraph 213, Declarant purely speculates, without providing any supporting evidence, “As disclosed, SQL was a standardized language that included the claimed reporting tools in the form of “queries,” and would have been well known by a POSITA prior to the effective filing date of the ‘724 patent. A “query” in the SQL language was configured to generate reports from the contents of a database. For example, one reporting statement implemented by SQL was the

“SELECT” command, which isolated selected data stored in the database, returning a report of the selected data as a “result-set.” As an example, if the Registration Database contained a “Users” table with “firstname” and “lastname” fields, the following SQL query would have reported a list of the first and last name of every registered user: SELECT firstname, lastname FROM Users.”

In paragraph 214, Declarant purely speculates, without providing any supporting evidence, “While this is but a simple example, the disclosed SQL databases included the claimed reporting tools.”

In paragraph 216, Declarant purely speculates, without providing any supporting evidence, “In each disclosure above a number of views is converted to a commensurate payment to a third party. While not explicitly disclosed in Angles, it would be obvious that there would likely be a reporting component either internally within the advertisement provider, or between the advertisement provider and the content or Internet provider associated with the payment of advertising revenues because having a database that can be queried (e.g., SQL database) and without a reporting component the result of the query cannot be rendered. Therefore, a reporting component is necessarily present..”

In paragraph 218, Declarant purely speculates, without providing any supporting evidence, “Additionally, the POSITA in this case has at least a general

knowledge of 3D rendering and virtual reality, such as the virtual car racing game disclosed by Angles. He or she would have understood how a virtual environment is defined in the memory of a computer in order to be rendered to a game client. Any POSITA with a rudimentary understanding of a virtual environment would understand that the state of dynamic objects in the world (the player's car, AI opponents, damaged terrain, etc.), contain the same properties as static objects (i.e., shape, position, orientation, and other visual and 'physical' attributes), but due to the dynamic nature of such objects those parameters change in real time as objects move and the virtual environment evolves. It was well known in the art prior to the effective filing date of the '724 patent that said changes are stored under the control of the rendering system."

In paragraph 222, Declarant purely speculates, without providing any supporting evidence, "Farm products represented on an advertisement in the virtual environment represent a product placement, and the ability to accept and monitor requests for more information teach a product placement interface."

In paragraph 233, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, "As noted in section IX.A.1 above, advertisements delivered into interactive systems would have been understood by a POSITA to include

“product placement information from a sponsor” as described in the ‘724 patent. Robinson teaches integrating advertising and product placement content into an electronic game, as well as teaching connecting and navigating to an advertiser’s website mirroring fundamental elements of the alleged invention of the ‘724 patent.”

In paragraph 234, Declarant purely speculates, without providing any supporting evidence or cites only evidence that is unauthenticated, improper and lacking foundation, “A POSITA would have been motivated to combine and collectively consider the teachings of Robinson with his knowledge of the state of the art of advertising in video games (See Section IX.A: Background Information) to arrive at the subject matter claimed by the ‘724 patent.”

In paragraph 235, Declarant purely speculates, without providing any supporting evidence, “Additionally, the exemplary systems disclosed in both Robinson and the ‘724 patent serve interactive content in a substantially similar manner, transmitting said content from a server computer over a network such as the Internet to a client computer. Not only would a POSITA have been motivated to combine and collectively consider the teachings of Robinson with well-known industry knowledge to arrive at the subject matter claimed by the ‘724 patent, he would have had a reasonable expectation of success when doing so.”

In paragraph 246, Declarant purely speculates, without providing any supporting evidence, “It was well known in the art that interactions between avatars in a virtual environment were subject to environmental rules, including rules that govern gravity, terrain-following, and collisions with other avatars, walls, and such.”

In paragraph 248, Declarant purely speculates, without providing any supporting evidence, “When a user follows a link to an advertiser’s website, whether said website contains 2D or “3D/spatial” advertisements, the user exits one virtual thematic environment to enter another. It is the antecedent “the virtual thematic environment” that is exited.”

In paragraph 251, Declarant purely speculates, without providing any supporting evidence, “Robinson teaches this limitation. A new product obtained from a website discussed for claim 1[b], (i.e., the claimed said data or said objects), is integrated into the user’s 3D desktop via the drag-and-drop interface. As with any drag-and-drop interface, upon the “drop” of an object it is re-integrated into its environment in a new location, an activity that takes place automatically upon the “drop” (i.e., release of the mouse button, for example) without human initiation or intervention, and is therefore automatic. Moreover, as the drag-and-drop functionality is a part of the user’s 3D desktop, said automatic integration occurs during execution of the virtual thematic environment.”

In paragraph 253, Declarant purely speculates, without providing any supporting evidence, “As an initial matter, a POSITA would have considered it obvious that in order to publish a virtual reality gaming environment as required by claim 1[b], the content provider computer must necessarily store and manage the content required by said virtual reality gaming environment. In other words, for a server to serve data, that data must be stored on the server.”

In paragraph 254, Declarant purely speculates, without providing any supporting evidence, “Robinson teaches this limitation, providing for content management on the configurable 3D desktop. As an initial example, the 3D desktop manages positions of content resulting from a drag-and-drop interface (See claim 1[c]). Also, the 3D desktop program must necessarily manage content such as the new products grabbed from a website to customize the 3D desktop (See claim 1[b]).”

In paragraph 257, Declarant purely speculates, without providing any supporting evidence or cites to section of the Declaration that does not exist, “For the 3D desktop to be compatible with such a plurality of devices, each would necessarily interpret the 3D environment in a way as to make it operable specifically for said device (See Section IX.A.4).”

In paragraph 258, Declarant purely speculates, without providing any supporting evidence, “In doing so, the Web Browser module taught by Robinson

performs the function described by the quantum imaging module, interpret[ing] content such that said content is manipulated and accessed by any device as claimed.”

In paragraph 278, Declarant purely speculates, without providing any supporting evidence, “Moreover, the use of encryption and SSL were well known in the art prior to the effective filing date of the ‘724 patent and would have been an obvious improvement where security was desired.”

In paragraph 279, Declarant purely speculates, without providing any supporting evidence, “Not only would a POSITA have been motivated to combine and collectively consider the teachings of Robinson with well-known and disclosed security technology, he would have had a reasonable expectation of success when doing so.”

In paragraph 286, Declarant purely speculates, without providing any supporting evidence, “It was well known in the art of said conventional technology that interactions between avatars in a virtual environment were subject to environmental rules, including rules that govern gravity, terrain-following, and collisions with other avatars, walls, and such.”

In paragraph 290, Declarant purely speculates, without providing any supporting evidence, “It was well known in the art that NPCs were controlled by an

AI that governed their behavior. It would have been obvious to a POSITA that such a preprogrammed AI controlled each NPC's interaction with human-controlled avatars in the virtual space, disclosing the claimed Artificial Intelligence (AI) engine which controls behavior of objects and the virtual thematic environment.”

In paragraph 311, Declarant purely speculates, without providing any supporting evidence, “The POSITA would have understood how a virtual environment is defined in the memory of a computer in order to be rendered to a game client. Any POSITA with a rudimentary understanding of a virtual environment would understand that objects in the world are defined with shape, position, orientation, and other visual and ‘physical’ attributes. The definition of an object in the virtual environment would be the claimed rule set.”

In paragraph 312, Declarant purely speculates, without providing any supporting evidence, “Said 3D VR advertisement comes from an external source, and represents the virtual environment of the advertisement through which users’ avatars are walking around and interacting. Also, the data that controls the movement of other users comes from an external source as that user controls his or her avatar within the virtual scene. All of these rules and external data are combined to create the virtual experience, and a POSITA would understand the net result of

said combination would result in modifying the virtual thematic environment by combining data from a rule set with data from external sources as claimed.”

In paragraph 321, Declarant purely speculates, without providing any supporting evidence, “In addition, the POSITA in this case has at least a general knowledge of 3D rendering and virtual reality, such as the 3D VR environment disclosed by Robinson. He or she would have understood how a virtual environment is defined in the memory of a computer in order to be rendered to a game client. Any POSITA with a rudimentary understanding of a virtual environment would understand that the state of dynamic objects in the virtual world (other avatars, AI-controlled customer service representatives, animating products, etc.), contain the same properties as static objects (i.e., shape, position, orientation, and other visual and ‘physical’ attributes), but due to the dynamic nature of such objects those parameters change in real time as objects move and the virtual environment evolves. It was well known in the art prior to the effective filing date of the ‘724 patent that said changes were stored under the control of the rendering system.”

In paragraph 322, Declarant purely speculates, without providing any supporting evidence, “Thus, the claimed real-time thematic environment database which maintains a state of each user and the virtual thematic environment is rendered obvious in view of the knowledge of a POSITA.”

In paragraph 323, Declarant purely speculates, without providing any supporting evidence, “Additionally, Robinson disclosed tracking a state of each user over time, including profile and metrics used to target advertising to said user (See claim 19).”

In paragraph 334, Declarant purely speculates, without providing any supporting evidence, “As shown, Robinson disclosed seamlessly connecting to a product sponsor at which a product is sold (See claim 21). Once arriving at said sponsor’s website, Robinson disclosed that “an e-commerce transaction corresponding to the advertisement may be initiated” (Id.). It was well known in the art as the time the ‘724 patent was filed that an e-commerce purchase could be made using real-world credit.”

Accordingly, such unsupported and conclusory testimony is objected to as irrelevant, misleading, unduly prejudicial, and confusing under Fed. R. Evid. 401–403 and pure speculation in violation of Fed. R. Evid. 702, 703 and 705.

4. Objections to Purported Expert Testimony That Does Not

Disclose the Underlying Facts or Data on Which the Opinion is Based

Patent Owner further objects to Exhibit 1004 as including “[e]xpert testimony that does not disclose the underlying facts or data on which the opinion is based” in violation of 37 C.F.R. § 42.65(a) and Fed. R. Evid. 702–703, and 705.

Specifically, statements in paragraphs 90-92, 94-96, 98, 104-106, 118-119, 122, 124, 134, 137-138, 150, 247, 168, and 300-301 cite to references that fail to provide support for the statements and/or opinions being proffered, and this testimony is accordingly objected to for failing to provide the underlying facts or data on which such opinion is based.

Further, paragraph 90 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding a communication network, but Fig. 2 does not show communication of customized advertisements.

For example, paragraph 91 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for statements about "electronic devices", but no evidence supports the statement that "[s]aid electronic devices are interfaced to COMMUNICATION MEDIUM 20."

Further, paragraph 92 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites

Exhibit 1007 as support for Declarant's statements regarding the system of Fig. 1, but no evidence supports that the system is interactive.

For example, paragraph 94 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding a Web Browser, but no evidence supports the statement that "that the consumer computer can be equipped with a Web Browser to allow the consumer to access the virtual reality environments with embedded advertisements from said content and/or advertisement provider computers."

For example, paragraph 95 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding a customized advertisements, but no evidence supports the "customized advertisements can be served from an advertiser's computer through the content provider computer to a consumer's computer."

For example, paragraph 96 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide

support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding a direct communication, but no evidence supports the statement that "Fig. 9 shows direct communication between a CONSUMER COMPUTER 12 (a primary electronic device), and a CONTENT PROVIDER COMPUTER 12, which is also coupled to an ADVERTISEMENT PROVIDER COMPUTER 18"

For example, paragraph 98 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding Angles, but no evidence supports that Fig. 4 discloses a web browser or that a Web Browser Module serves on-line games such as interactive car races to a game playing consumer.

For example, paragraph 104 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding a particular advertiser, but no evidence supports the Information in the cookie informs the system whether the player has registered with a particular advertiser.

For example, paragraph 105 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding advertising insert, but no evidence supports that the advertising insert is equivalent to a billboard in a virtual racing game.

For example, paragraph 106 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding opening a separate advertising window, but no evidence supports that opening a separate advertising window is equivalent to creating a separate window.

For example, paragraph 118 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1008 as support for Declarant's statements regarding a Persistent Client kernel, but no evidence supports that the persistent client kernel manages the serving of business-related content, that it is downloaded, or that it captures information about a user.

For example, paragraph 119 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1008 as support for Declarant's statements regarding the persistent client kernel, but no evidence supports that the persistent client kernel identifies a particular user's computer or generates or disseminates a profile of a user.

For example, paragraph 122 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1008 as support for Declarant's statements regarding clicking on an advertisement, but no evidence supports that Robinson teaches exiting the virtual thematic environment.

For example, paragraph 124 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1008 as support for Declarant's statements regarding a VR advertising environment, but the evidence does not support that Robinson teaches opening a full-screen VR advertising environment.

For example, paragraph 134 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding a web browser, but no evidence supports that the Consumer Computer 12 of Angles is equipped with a Web Browser.

For example, paragraphs 137 and 138 fail to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding the virtual environment, but no evidence supports that Angles teaches exiting the virtual thematic environment.

For example, paragraph 150 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1007 as support for Declarant's statements regarding storage medium, but no evidence supports that Angles teaches managing content.

For example, paragraph 247 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide

support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1008 as support for Declarant's statements regarding the virtual thematic environment, but no evidence supports that Robinson teaches exiting the virtual thematic environment.

For example, paragraph 268 fails to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1008 as support for Declarant's statements regarding sponsored content, but no evidence supports that Robinson teaches real-time collecting of sponsored content.

For example, paragraphs 300-301 fail to provide underlying facts or data on which statements and/or the opinion is based by citing to a reference that fails to provide support for the statement and/or opinion proffered. For example, Declarant cites Exhibit 1008 as support for Declarant's statements regarding thematic content, but no evidence supports that Robinson teaches storing thematic content.

Accordingly, for at least the foregoing reasons, this testimony of Exhibit 1004 is inadmissible under Fed. R. Evid. 702–703, and 705 and is further objected to as misleading and confusing under Fed. R. Evid. 401–403.

5. *Objections to Testimony Not Cited to or Relied Upon by
the Petition*

Patent Owner further objects to Exhibit 1004 as to the extent the testimony provided by Declarant in paragraphs 1-4, 21-40, 45, 58-69, 87-88, 108, 133, 175, 199, 217, 219, 225, 228, 252, 261, 284, 287, 292, 297, 317, 319, 329, 332, and 336-337 is not cited to or relied upon by the Petition in violation of 37 C.F.R. §42.104(b)(5). Accordingly, this testimony is also irrelevant, misleading, and confusing under Fed. R. Evid. 401-403.

Date: December 26, 2023

Respectfully Submitted,
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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6 the undersigned hereby certifies that the above-captioned Patent Owner's Objections to Petitioner's Evidence was served via electronic mail on December 26, 2023 upon the following parties:

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