

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. IPR2023-00959
U.S. Patent No. 10,255,724

**PETITION FOR INTER PARTES REVIEW
OF U.S. PATENT NO. 10,255,724**

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LIST OF EXHIBITS

Exhibit #	Description
Ex. 1001	U.S. Patent No. 10,255,724 (“the ’724 Patent”)
Ex. 1002	U.S. Pat. Pub. No. US2011/0292167A1
Ex. 1003	Prosecution File History of the ’724 Patent
Ex. 1004	Declaration of David Crane
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Ex. 1006	Complaint for Patent Infringement, dated June 3, 2022, in the matter of <i>Quantum Imaging LLC v. Sony Group Corporation, et al.</i> , W.D. Texas, Case No. 6:22-cv-00573-ADA-DTG
Ex. 1007	U.S. Patent No. 5,933,811 (“Angles”)
Ex. 1008	U.S. Patent No. 7,168,051 (“Robinson”)
Ex. 1009	Amended Scheduling Order, dated February 17, 2023, in the matter of <i>Quantum Imaging LLC v. Sony Group Corporation, et al.</i>
Ex. 1010	Order Construing Claims, in <i>Barbaro Technologies, LLC v. Niantic, Inc.</i> , No. 3:18-cv-02955 (N.D. Cal.)

I. INTRODUCTION

Pursuant to 35 U.S.C. § 311 *et seq.* and 37 C.F.R. § 42.1 *et seq.*, Sony Interactive Entertainment LLC, (“Petitioner”) hereby petitions for *inter partes* review (“IPR”) of U. S. Patent No. 10,255,724 (the “’724 Patent”). Petitioner respectfully submits that Claims 1-7, 9-14, 16, 18, and 20-23 of the ’724 Patent (the “Challenged Claims”) are unpatentable under 35 U.S.C. § 103 in view of the prior art references discussed herein. This Petition demonstrates by a preponderance of the evidence that there is a reasonable likelihood that Petitioner will prevail with respect to at least one of these Challenged Claims. Accordingly, it is respectfully requested that the Board institute an *inter partes* review of the ’724 Patent pursuant to 37 C.F.R. § 42.108.

This Petition is supported by the Declaration of David Crane (Ex-1004), who is an expert in the claimed subject matter. *Id.*, ¶¶5-20, Ex-1005.

II. MANDATORY NOTICES UNDER 37 C.F.R. §42.8

A. Real Party-in-Interest (37 C.F.R. § 42.8(b)(1))

The real parties-in-interest in this Petition are Petitioner, Sony Interactive Entertainment Inc., and Bluepoint Games, Inc., Sony Group Corporation, and Sony Corporation of America (“RPIs”).

B. Related Matters (37 C.F.R. § 42.8(b)(2))

1. Judicial Matters

As of the filing date of this Petition and to the best of Petitioner's knowledge, the '724 Patent is involved in the Related Matter of *Quantum Imaging LLC v. Sony Group Corporation, et al.*¹, W.D. Texas, Case No. 6:22-cv-00573-ADA-DTG (filed on June 3, 2022). *See* Ex-1006.

2. Administrative Matters

As of the filing date of this Petition and to the best of Petitioner's knowledge, the Challenged Claims are not involved in any administrative matters.

3. Related Patents

As of the filing date of this Petition and to the best of Petitioner's knowledge, the '724 Patent is related to U.S. Pat. Nos. 8,225,220, 7,373,377, 8,458,028, 10,991,165, 11,195,333, 10,846,941, and 8,228,325².

¹ Sony Group Corporation and Sony Corporation of America have been dismissed from the lawsuit.

² Claims 1-3, 5-8, 10-12, 15-17, 19, and 24-25 of U.S. Patent No. 7,373,377 and Claims 1, 3, and 6 of U.S. Patent No. 8,228,325 have been invalidated by the Court in *Barbaro Technologies, LLC v. Niantic, Inc.*, No. 3:18-cv-02955 (N.D. Cal.).

C. Counsel and Service Information (37 C.F.R. § 42.8(b)(3) and (4))

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D. Notice of Service Information (37 C.F.R. § 42.8(b)(4))

Please direct all correspondence to lead and back-up counsel at the above addresses. Petitioner consents to electronic service at the email addresses above.

III. FEES (37 C.F.R. § 42.15(a))

In accordance with 37 C.F.R. § 42.103(a), the Office is authorized to charge \$41,500 and any additional fees to Deposit Account No. 60-4652.

IV. STANDING (37 C.F.R. § 42.104(a))

Petitioner certifies that the Patent for which review is sought is available for IPR and that Petitioner is not barred or estopped from requesting IPR of the Challenged Claims on the grounds identified herein. 37 C.F.R. § 42.104(a). This Petition is filed pursuant to 37 C.F.R. § 42.106(a).

V. PRECISE RELIEF REQUESTED

A. Grounds for Review

Petitioner respectfully requests review of the Challenged Claims of the '724 Patent, and cancellation of the Challenged Claims based on the grounds listed below.

Ground	Claims	Reference
1	1-7, 9-14, 16, 18, 20-23	Angles in view of the knowledge of a person of ordinary skill in the art (POSITA)
2	1-7, 9-14, 16, 18, 20-23	Robinson in view of the knowledge of a POSITA

- Ground 1: The Challenged Claims are obvious under 35 U.S.C. § 103 over U.S. Patent No. 5,933,811 to Angles et al. (“Angles”) (Ex-1007), issued on Aug. 3, 1999, in view of the knowledge of a person of ordinary skill in the art. The '724 Patent was filed on Aug. 4, 2011 as U.S. Application Serial No. 13/137,299 and claimed priority to the U.S. Patent No. 8,458,028 (the “’028 Patent”) on its face that was filed on Oct. 16, 2002. The '724 Patent is a divisional of U.S. Pat. No. 8,225,220 (the

“’220 Patent”) that was filed on March 12, 2008, which is a divisional of U.S. Pat. No. 7,373,377 (the “’377 Patent”) that was filed on March 22, 2004, which is a continuation-in-part application of the ’028 Patent. As a continuation-in-part application of the ’028 Patent, the ’377 Patent is not entitled to the priority date of the ’028 Patent with respect to new matter introduced within the ’377 Patent. Quantum has not identified any evidence that establishes the alleged priority date or any priority date earlier than March 22, 2004 for the ’377 Patent. Angles thus qualifies as prior art under at least pre-AIA 35 U.S.C. §§ 102(a) and 102(b) because Angles was patented more than one year prior to the effective filing date of the ’724 Patent (March 22, 2004).

- Ground 2: The Challenged Claims are obvious under 35 U.S.C. § 103 over U.S. Patent No. 7,168,051 to Robinson et al. (“Robinson”) (Ex-1008) in view of the knowledge of a person of ordinary skill in the art. Robinson was filed on Dec. 20, 2000 as a continuation-in-part of U.S. Pat. App. No. 09/686,206 filed on Oct. 10, 2000 and was published as US 2002/0113820 on Aug. 22, 2002. Robinson thus qualifies as prior art under at least pre-AIA 35 U.S.C. §§ 102(a), 102(b), and 102(e)(1)-(2) because Robinson was filed and published in the United States before the effective filing date of the ’724 Patent (March 22, 2004).

Angles and Robinson predate the '724 Patent even if the '724 Patent is given the effective filing date of Oct. 16, 2002 for the '028 Patent.

VI. THE '724 PATENT

A. Summary of the '724 Patent

The '724 Patent shares the same title (“Interactive Virtual Thematic Environment”), abstract, specification, and figures as multiple patents in the same patent family including U.S. Pat. Nos. 8,225,220, 7,373,377, 10,991,165, 11,195,333, 10,846,941, and 8,228,325. The '724 Patent identifies the problem with the “related art” to be that “the virtual environments ... have not provided the user with a real world experience.” Ex-1001, 1:27-37. The '724 Patent “relates to an interactive software application platform ... to provide a virtual and real world experience to the user by integrating audio, video, 2D and 3D technology ... that may enhance the user’s experience.” *Id.*, 6:58-63. The '724 Patent discloses that “the program ... injects real time data, such as sports scores, live sports events, film, news, etc., into a virtual thematic environment.” *Id.*, 6:63-66. *See also* Ex-1004, ¶¶46-57.

Claim 1 of the '724 Patent requires a thematic/publishing logic module that contains virtual thematic environment rules configured for a gaming environment and which allows a user to interact within the virtual thematic environment. Claim 1 also requires that “upon a predetermined action within said virtual thematic

environment, automatically exit the virtual thematic environment, and one of copy or grab data or objects from a website external to the virtual thematic environment, to be utilized in the virtual thematic environment.” Accordingly, the user may leave the virtual thematic environment by going to a sponsor’s website where the user can copy or grab data or objects and bring the data or objects back to the virtual thematic environment where the data or objects are integrated within the virtual thematic environment.

B. Prosecution History

The ’724 Patent was issued from U.S. Pat. App. No. 13/137,299 (“the ’299 Application”), which was filed on Aug. 4, 2011, published as U.S. Pat. Pub. No. US2011/0292167 A1 (Ex-1002) on Dec. 1, 2011, and issued on Apr. 9, 2019. As originally filed, Claim 1 was canceled and replaced with Claim 29.

During nearly four years of prosecution, claims of the ’299 Application were rejected nine times by the Examiner. The Applicant made numerous amendments to the claims, including adding significant amendments to Claim 29 and deleting the amended portion once it was determined that the amendment would not overcome the rejections. Significant amendments to Claim 29 resulted in issuance of the ’724 Patent with a substantially different Claim 1 as compared to what was originally filed as Claim 29. *See* Ex-1001, 43:45-62, Claim 1.

C. Priority Date

The '724 Patent was filed on Aug. 4, 2011 as the '299 Application and claimed priority to the '028 Patent on its face. The '724 Patent is a divisional of the '220 Patent that was filed on March 12, 2008, which is a divisional of the '377 Patent that was filed on March 22, 2004, which is a continuation-in-part application of the '028 Patent that was filed on Oct. 16, 2002. As a continuation-in-part application of the '028 Patent, the '377 Patent is not entitled to the priority date of the '028 Patent with respect to new matter introduced within the '377 Patent. Quantum has not identified any evidence that establishes the alleged priority date or any priority date earlier than March 22, 2004 for the '377 Patent. The '028 Patent fails to provide support for the asserted claims of the '724 Patent in compliance with 35 U.S.C. §112. For example, the '028 Patent fails to provide support for at least the following limitations of the asserted Claim 1 of the '724 Patent:

- “[a] computer system having an interactive software application platform for providing a virtual thematic environment”;
- “at least one thematic/publishing logic module for a gaming environment ... to allow a user to interact within said virtual thematic environment and upon a predetermined action ... automatically exit the virtual thematic environment, and ... copy or grab data or objects from a website ... to be utilized in the virtual thematic environment;”

- “at least one digital content library module which provides content management on the virtual thematic environment;”
- “at least one quantum imaging environment (QIE) module which interprets content such that said content is manipulated and accessed by any device[.]”

Thus, the effective filing date of the '724 Patent is March 22, 2004.

D. Level of Ordinary Skill in the Art

A POSITA at the time of the alleged invention would have had a bachelors degree in computer engineering, computer science, or a similar discipline, and/or two years of professional experience in the fields of networking and network-based systems or applications, such as client-server and web-based systems, in the specific context of console and gaming or an equivalent level of skill, knowledge, and experience. A POSITA would have at least a general knowledge of online and in-game data integration systems prevalent in the field, as well as at least a general knowledge of 3D rendering and virtual reality. Ex-1004, ¶¶ 41-44.

E. Claim Construction

For IPR proceedings, the Board applies the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). See 83 Fed. Reg. 51,340-51,359 (Oct. 11, 2018). Under *Phillips*, claim terms are typically given their ordinary and customary meanings, as would have been understood by a

POSITA, at the time of the invention, having taken into consideration the language of the claims, the specification, and the prosecution history of record. *Phillips*, 415 F.3d at 1313; *see also id.*, 1312-16. The Board, however, only construes the claims when necessary to resolve the underlying controversy. *Toyota Motor Corp. v. Cellport Sys., Inc.*, No. IPR2015-00633, Paper 11 at 16 (P.T.A.B. Aug. 14, 2015) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)) (other citations omitted). Petitioner believes that no express constructions of the claims are necessary to assess whether the prior art reads on the Challenged Claims. It is noted that this interpretation is applicable to the IPR sought herein only and should not be construed as constituting, in whole or in part, Petitioner's own interpretation of any claims for any other purposes, including any litigation. Accordingly, Petitioner expressly reserves the right to present an interpretation of a claim term in other proceedings that is different, in whole or in part, from that presented in this Petition.

Petitioner reserves the right to assert in litigation that its proposed constructions are proper and that certain terms are indefinite. Petitioner does not concede, by seeking this Petition, that the Challenged Claims are of definite scope or properly described under 35 U.S.C. § 112. While the PTAB is statutorily not permitted to invalidate patents for indefiniteness in *inter partes* review (*Cuozzo Speed Techs. v. Lee*, 579 U.S. 261, 275 (2016)), it may nevertheless invalidate a

potentially indefinite patent for obviousness so long as it can ascertain that the prior art falls within the scope of the patent. *Vibrant Media v. Gen. Elec. Co.*, No. IPR2013-00172, Paper 50 at 10-11 (P.T.A.B. July 28, 2014), *aff'd*, 626 Fed. Appx. 1010 (Fed. Cir. 2015); *see also Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1373-74 (Fed. Cir. 2014) (term may be indefinite even though examples in the specification provide some scope for prior art analysis).

In the Related Matter of district court litigation, the parties have not filed claim construction briefs and the court has not issued a claim construction order yet. However, the District Court of the Northern District of California issued a claim construction order (Ex-1010) on Feb. 12, 2020 in *Barbaro Technologies, LLC v. Niantic, Inc.*, No. 3:18-cv-02955 (N.D. Cal.) on U.S. Patent Nos. 7,373,377 and 8,228,325, which are in the same patent family with and share the same specification and figures as that of the '724 Patent. In its order, the court construed the following terms that also appear in the Challenged Claims of the '724 Patent:

- “*graphics user interface (GUI) module*” - “software that provides a graphical display and processes user inputs to allow a user to interact with the graphical display.” Ex-1010, page 5.
- “*virtual thematic environment*” – “a theme-based virtual computer interface.”
Id., page 11.

Without consenting to the constructions by the court in *Barbaro* of the claim terms listed above³ or to the Applicant's claim terms, and for purpose of this petition only, Petitioner demonstrates that the asserted prior art in Grounds 1 and 2 meets the court's construction of the claim terms as discussed below.

With respect to the limitation "automatically exit the virtual thematic environment" (Ex-1001, Claim 1), the Applicant of the '299 Application asserts that "[t]he Examiner ... points to the perpetual universe server 202 ... to manage triggering of events within the game, such as schedulers 215 which schedule competitions and training sessions (para. 0045). However, this is typically game play which occurs within the video game, and Johnson does not disclose any triggering events that remove the player from the game environment to bring objects or data back into the gaming environment." Ex-1003, page 126. Without consenting to the Applicant's interpretation of the term "exit" and for the purpose of this petition only, Petitioner understands that Applicant interprets the term "allow a user to exit the virtual thematic environment" to mean "remove the player" from the game environment "to bring objects or data back into the gaming environment."

³ Petitioner believes that the claim terms listed above are either indefinite or should be construed differently.

VII. EXPLANATION OF GROUNDS FOR INVALIDITY

As Mr. Crane explains in his declaration, a POSITA would have been aware of the various different types of software, programming languages, and applications related to the patented subject matter of the '724 Patent before the priority date of the '724 Patent. Ex-1004, ¶¶70-86. Specifically, the Challenged Claims of the '724 Patent are rendered obvious at least by the following Grounds.

A. **Ground 1: Angles in View of the Knowledge of a POSITA Renders Obvious Challenged Claims 1-7, 9-14, 16, 18, 20-23**

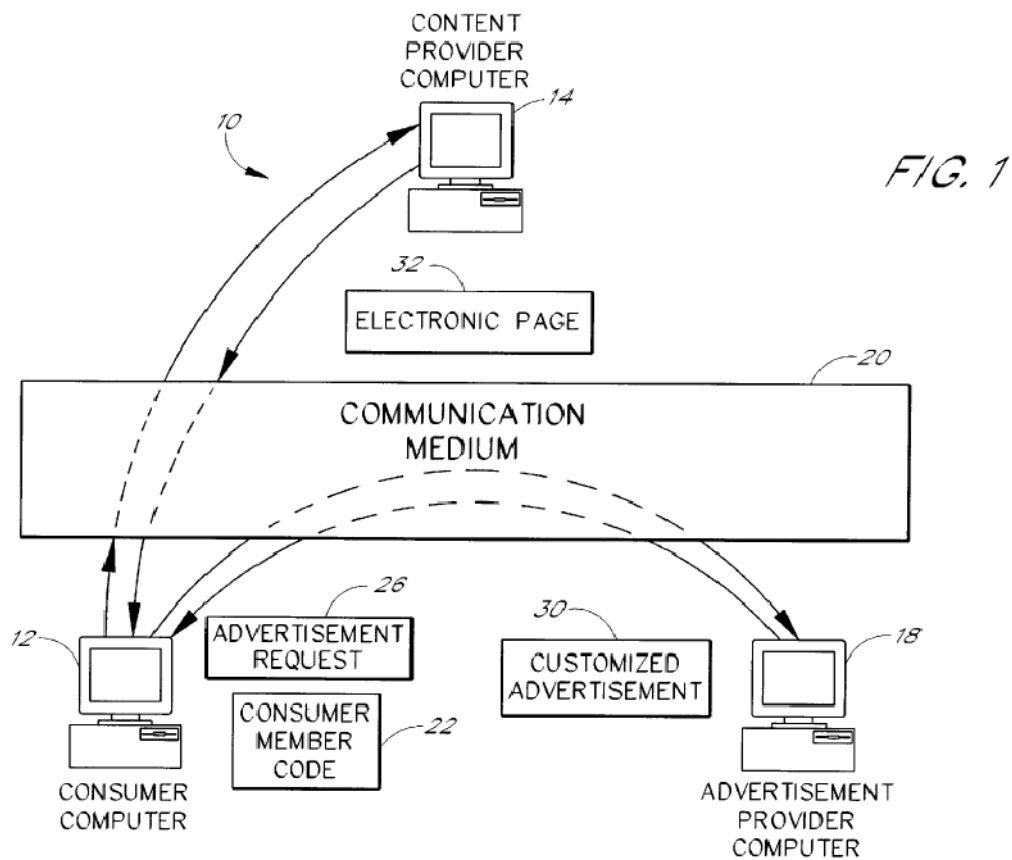
1. **Prior Art**

(a) **Overview of Angles (Ex-1007)**

Angles was filed Aug. 20, 1996, and was issued as U.S. Patent No. 5,933,811 on Aug. 3, 1999. Angles thus qualifies as prior art under pre-AIA 35 U.S.C. §§ 102(a) and 102(b) against the '724 Patent. Like the '724 Patent that relates “to interactive software application platform ... to provide a virtual and real world experience to the user by integrating audio, video, 2D and 3D technology, and other technologies that may enhance the user’s experience” (Ex-1001, 6:58-63), Angles similarly relates to “delivering customized advertisements within interactive communications systems.” Ex-1007, 1:9-11. Angles discloses a computer that “can **integrate the customized advertisements 30 into** offerings such as **on-line games, video programming**, internet radio, virtual reality environments and the like” including “on-line games such as interactive car races.”

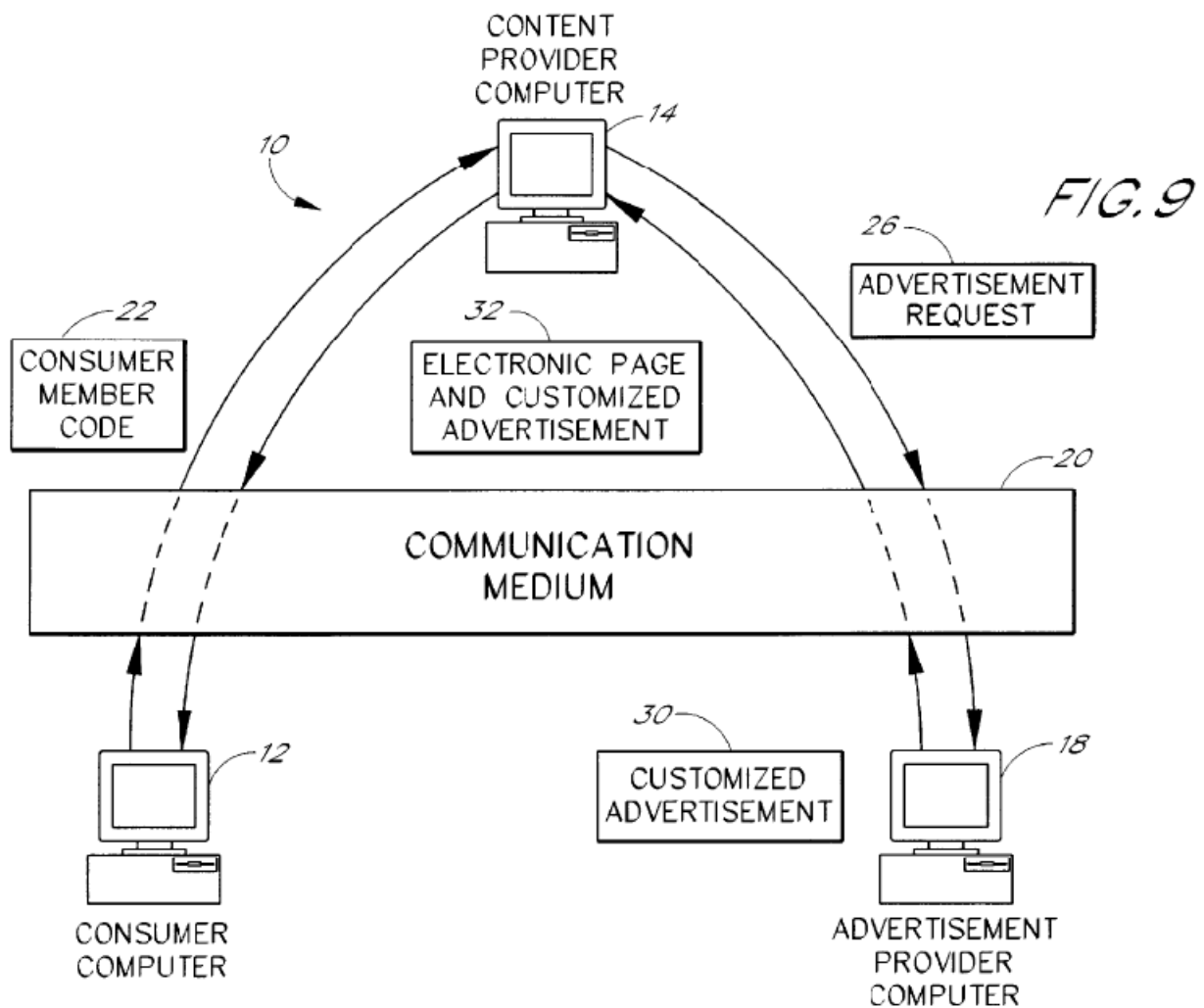
Id., 21:57-62 (emphasis added)⁴.

FIG. 1 of Angles depicts an “interactive communication system” that “includes a consumer computer 12, a content provider computer 14 and an advertisement provider computer 18 which communicate with each other by use of a communication medium 20” (*id.*, 7:49-52):



⁴ All emphasis in this Petition is added by Petitioner unless otherwise noted.

“The content provider computer 14 transfers an electronic page 32 to the consumer computer 12,” where the “electronic page 32 contains an embedded advertisement request 26” (*id.*, 7:57-60). “When the consumer computer 12 receives the electronic page 32, it executes the embedded advertisement request 26 ... [that] directs the consumer computer 12 to establish a communications link with the advertisement provider computer 18” (*id.*, 7:61-65). FIG. 9 of Angles depicts an alternative embodiment where “advertisement provider computer 18 sends the customized advertisement 30 to the content provider computer 14” (*id.*, 21:35-37):



“[U]pon receiving the customized advertisement, the content provider incorporates the customized advertisement 30 into an electronic page 32 ... then forwards the electronic page 32, combined with the customized advertisement 30 to the consumer computer 12” to be displayed. *Id.*, 21:38-44.

Since “the customized advertisements 30 ... [is] incorporated directly into

the content provider's offerings ... the content provider computer 14 can **integrate the customized advertisements 30 into offerings such as on-line games, video programming**, internet radio, **virtual reality environments and the like.**" *Id.*, 21:55-60). In "on-line games" being "**interactive car races**," "the customized advertisements 30" can be integrated "into signs and billboards which appear in the interactive game." *Id.*, 21:62-65; *See also* Ex-1004, ¶¶ 89-107.

As explained by Mr. Crane in his declaration (*id.*, ¶¶ 127-131), Angles in view of the knowledge of a POSITA would render the Challenged Claims obvious as detailed by the element by element claim analysis below.

2. Claim 1

- (a) **1[preamble]: A computer system having an interactive software application platform for providing a virtual thematic environment, comprising:**

To the extent the preamble is limiting, Angles discloses this limitation. Angles is directed to an interactive system with multiple computers for integrating customized advertisements into offerings such as **on-line games and video programming**, e.g., **interactive car races**. An on-line game such as interactive car races facilitated through one or more computers, as disclosed by Angles, is a theme-based virtual computer interface consistent with the *Barbaro* claim construction order (Ex-1010, page 11) for "virtual thematic environment".

Applicant's own interpretation in the '299 Application provides a **game** as an example of a virtual thematic environment. Ex-1003, page 280.

As shown by FIGs. 1 and 9 reproduced above, Angles discloses that the “**interactive** communication system interconnects multiple consumer **computers**, multiple content provider **computers** and multiple Internet provider **computers** with an advertisement provider computer.” Ex-1007, Abstract. The consumer computer may be “a computer workstation, a local area network of individual computers, ... a personal digital assistant, an interactive wireless communications device or the like.” *Id.*, 10:33-37. Angles discloses that when “a consumer directs one of the **consumer computers** to access an offering ..., an advertising request is sent to the advertisement provider computer” that “generates a custom advertisement” that “is then combined with the offering from the content provider computer and displayed to the consumer.” *Id.*, Abstract. “A wide range of **interactive communication mediums** can be employed” such as “customized computer networks, ... and the like.” *Id.*, 9:27-34. Angles discloses that “the customized advertisements 30 ... [can] be incorporated ... into ... providers offerings ... such as **on-line games, video programming**, ... virtual reality environments and the like” (*id.*, 21:53-60), e.g., “**interactive car races**” (*id.*, 21:62). As Mr. Crane explains in his declaration, the “consumer computer” in Angles constitutes “a computer system” under the plain and ordinary meaning of

the term, and has an “interactive software application platform for providing a virtual thematic environment” such as “on-line games” including “interactive car races.” Ex-1004, ¶ 132.

(b) 1[a]: a processor which executes a program having a plurality of modules, said plurality of modules including:

Angles teaches this limitation by disclosing a conventional computer system with an operating system. As Mr. Crane explained in his declaration, a POSITA would have recognized that “a conventional computer” running an “operating system” includes a **processor** with a program having a plurality of modules. Ex-1004, ¶¶ 134-135. Angles discloses that “the consumer computer 12 could ... be a computer workstation, a local area network of individual computers” and “provide the appropriate communications protocols needed to establish communication links with the communication medium 20” while “the **operating systems**” may differ. Ex-1007, 10:33-42. “[T]he consumer computer 12 is a **conventional computer** which ... **runs an appropriate operating system** such as the Microsoft® Windows ... [or] the Apple® ... operating systems... [with] a TCP/IP stack which handles all incoming and outgoing message traffic.” *Id.*, 10:23-32. Angles discloses a program having a plurality of **modules** as required by Claim 1 by disclosing that the consumer computer utilizes “several operational **modules** including a consumer browser module 40, a consumer member code 22, and an

advertising storage medium 44.” *Id.*, 10:43-46.

- (c) **1[b]: at least one thematic/publishing logic module which contains virtual thematic environment rules configured for a gaming environment, the at least one thematic/publishing logic module being configured to allow a user to interact within said virtual thematic environment and upon a predetermined action within said virtual thematic environment, automatically exit the virtual thematic environment, and one of copy or grab data or objects from a website external to the virtual thematic environment, to be utilized in the virtual thematic environment;**

Angles teaches this limitation. Angles discloses at least one thematic/publishing logic module which contains virtual thematic environment rules configured for a gaming environment. For example, Angles discloses a **consumer browser module** that “allows a consumer to access different content providers through the communication medium 20” (Ex-1007, 10:43-50) where customized advertisements are integrated into offerings such as **on-line games and video programming**, e.g., **interactive car races**. *Id.* at 21:53-62; *see also* §§ VII.A.1.(a) and VII.A.2.(a). As Mr. Crane explained in his declaration, the “module ... display[s] an interactive gaming environment while implementing virtual thematic gaming rules.” Ex. 1004, ¶ 136. Applicant’s own interpretation in the ’299 Application provides a **game** as an example of a virtual thematic environment (Ex-1003, page 280), consistent with the *Barbaro* claim construction order (Ex-1010, page 11) as “a theme-based virtual computer interface.” Thus, an

on-line game such as an interactive car race, as disclosed by Angles, includes the virtual thematic environment rules as required by Claim 1.

Angles further discloses the at least one thematic/publishing logic module being configured to allow a user to interact within said virtual thematic environment as required by Claim 1 of the '724 Patent because online games or video programming, e.g., **interactive car races**, are necessarily **interacted** with by the user via a consumer browser module. Ex-1004, ¶ 136.

Angles discloses that upon a predetermined action within said virtual thematic environment, a user automatically exits the virtual thematic environment, and copy or grab data or objects from a website external to the virtual thematic environment, to be utilized in the virtual thematic environment, as required by Claim 1 of the '724 Patent. Angles “supports custom advertisements ... [with] hyper-links to other information ... to access different websites.” Ex-1007, 4:6-9. “[I]f a consumer wishes to obtain additional information about an advertised product or service, the consumer may ... **use a mouse to select** an embedded hyper-link ... and be **immediately transported** to an advertiser’s website.” *Id.*, 4:9-14. In Angles, the consumer using a mouse to select a link, is a predetermined action, as required by Claim 1 of the '724 Patent. The consumer being “transported” removes the consumer from the game environment, consistent with Applicant’s own arguments presented in the prosecution of the '299 Application.

In Angles, the “consumer control module 42 in the consumer computer 12 is adapted to receive a Java plug-in ... which creates **a separate window** which can display customized advertisements 30 on the consumer computer 12.” Ex-1007, 23:16-20. “[T]he consumer computer 12 stores the customized advertisements 30 on the advertising storage medium 44” and “the consumer control module 42 ... **retrieve[s] the customized advertisement 30** from the advertising storage medium 44” when directed by “an advertisement command”. *Id.*, 23:28-35. The customized advertisements are integrated into offerings such as **on-line games and video programming**, e.g., **interactive car races**, as described above. The separate window or retrieval of the customized advertisement, as disclosed by Angles, removes the player from the gaming environment to bring objects or data back into the gaming environment, consistent with Applicant’s own arguments presented in the prosecution of the ’299 Application. *See also* §§ VII.A.1.(a) and VII.A.2.(a); Ex-1004, ¶¶ 136-142.

- (d) **1[c]: wherein said data or said objects are automatically integrated into the virtual thematic environment during execution of the virtual thematic environment;**

Angles teaches this limitation by disclosing that the data or the objects are automatically integrated into the virtual thematic environment. For example, “the content provider computer 14 can **integrate** the customized advertisements 30 **into**

offerings such as on-line games, video programming, internet radio, **virtual reality environments** and the like.” Ex-1007, 21:57-60. For “**on-line games** such as **interactive car races**..., the content provider computer 14 can **integrate** the customized advertisements 30 into signs and billboards which appear in the **interactive game**.” *Id.*, 21:61-65. “[T]he content provider computer 14 can **integrate** the customized advertisements 30 into three-dimensional worlds defined by the Virtual Reality Modeling Language (VRML 1.0).” *Id.*, 21:61-22:2. The data in Angles is automatically integrated as required by Claim 1 of the ’724 Patent because “upon receiving the customized advertisement, the content provider incorporates the customized advertisement 30 into an electronic page 32.” *Id.*, 21:38-40. Customized advertisements are integrated in the interactive game and are therefore integrated during the execution of the virtual thematic environment, *i.e.*, a game. *See also* §§ VII.A.1.(a) and VII.A.2.(a), (c). As Mr. Crane explains in his declaration, the integration of the customized advertisements with the offerings happens automatically during execution. Ex-1004, ¶¶ 143-146.

(e) 1[d]: at least one digital content library module which provides content management on the virtual thematic environment; and

Angles teaches this limitation. Angles discloses a digital content library module which provides content management on the virtual thematic environment, as required by Claim 1 of the ’724 Patent. For example, the computer in Angles

utilizes operational modules including “an advertising **storage** medium 44” (Ex-1007, 10:43-46) like “a compact disk drive and a compact disk” that “stores a variety of advertisements which can be retrieved and displayed”. *Id.*, 11:50-55. In Angles, the “ advertising **storage** medium 44 ... consist of a wide range of data **storage devices** including ... digital video devices, floppy disks, hard drives, system memory, ... **PCMCIA** cards.” *Id.*, 11:55-60. “[A]n advertisement command ... directs the consumer computer 12 to **retrieve and display** one of the advertisements stored on the advertising storage medium 44.” *Id.*, 11:60-65. *See also* §§ VII.A.2.(a), (c)-(d); Ex-1004, ¶¶ 147-151.

- (f) **1[e]: at least one quantum imaging environment (QIE) module which interprets content such that said content is manipulated and accessed by any device; and**

Angles teaches this limitation. Angles discloses a quantum imaging environment module which interprets content such that said content is manipulated and accessed by any device, as required by Claim 1 of the '724 Patent, by disclosing a web browser that interprets the codes embedded within the information content of document. Angles discloses that HyperText Markup Language (HTML) tags specify how the web browser is to display the document. For example, Angles teaches that HTML is “a standard coding convention and set of codes for attaching presentation and linking attributes to informational content

within documents” where “the HTML codes (referred to as “tags”) are embedded within the informational content of the document” that are “are **interpreted** by the Web browser and used to parse and display the document. In addition to specifying how the Web browser is to display the document, HTML tags can be used to create links to other websites and other Web documents (commonly referred to as “hyperlinks”).” Ex-1007, 6:32-45; Ex-1004, ¶¶ 152-153.

(g) 1[f]: a display which displays the virtual thematic environment as images.

Angles discloses a display which displays the virtual thematic environment as images, as required by Claim 1 of the '724 Patent by disclosing a conventional computer system having a browsing module which must necessarily include a display. A display is necessarily present in a computer system that offers **on-line games or video programming**, e.g., **interactive car races**, in order to allow the user to interact with the on-line games or video programming. *See* §§ VII.A.1.(a) and VII.A.2.(a)-(d).

Angles discloses that “the process combines the electronic page 32 ... and the customized advertisement 30 ... into a **displayable page** ... displayed to the consumer.” Ex-1007, 8:62-67. “In one embodiment ... the consumer computer 12 ... retrieve[s] and **display[s]** one of the advertisements stored on the advertising storage medium 44” (*id.*, 11:61-65) or “merges and **displays** the electronic page ...

and the customized advertisement ... to the consumer.” *Id.*, 19:1-3. *See also* Ex-1004 ¶¶ 154-155.

3. Claim 2: The system according to claim 1, wherein said program of said processor further comprises: at least one graphical user interface (GUI) module.

Angles teaches this limitation. Angles discloses a GUI module as required by Claim 1 of the '724 Patent by disclosing a computer system that offers **on-line games or video programming**, e.g., **interactive car races**, which necessarily include a GUI to allow the user to interact with the on-line game/video program such as interactive car races. A computer system that offers on-line games or video programs for interactive car races must necessarily include a software that provides a graphical display and processes user inputs to allow a user to interact with the graphical display consistent with *Barbaro* claim construction order (Ex-1010, page 5) for GUI module. *See also* §§ VII.A.1.(a), VII.A.2.(a)-(g). Ex-1004, ¶¶ 156-158.

4. Claim 3: The system according to claim 1, wherein said program of said processor further comprises: at least one content logic module directed to accounting, sponsor and users, transactions, and collecting content in real-time and injecting said content into the virtual thematic environment.

Angles teaches this limitation. Angles discloses a content logic module directed to accounting, sponsor and users, transactions, and collecting content in real-time and injecting said content into the virtual thematic environment as

required by Claim 1 of the '724 Patent by disclosing a cookie that tracks consumer responses, which is subsequently used by the advertising module to access the **accounting database** to **debit/credit** the appropriate **consumer/advertiser** account, and that customizes advertisements based on the tracked consumer responses. Angles discloses transactions by disclosing crediting a consumer's digital cash account to **purchase goods and services**. For example, a "**Cookie** ... in the consumer computer **stores a member code** ... uniquely identifies each **consumer**." Ex-1007, 6:59-65. In Angles, a "unique communications module 52 ... is invoked each time a consumer computer accesses an electronic page 32 ... and ... obtain[s] the consumer's **member code** 22 ... [from] the **cookie**." *Id.*, 22:16-30. Angles discloses that the provider sends customized advertisements to the consumers "based on the consumers demographic profile and **tracks consumer responses** to the customized advertisements." *Id.*, 3:7-11. "The **advertising** module 62 extracts the consumer **member code** 22 from the **Cookie** and ... processes the **advertisement request** 26 [and] ... delivers the **customized advertisement** to the consumer ... [which] combines the customized advertisement with the electronic page that was requested by the consumer." *Id.*, 19:41-65. Since the communication module is invoked **each time** a consumer accesses an electronic page and the member code is obtained from the cookie that tracks the consumer response and customized advertisement is combined with the

electronic page, as disclosed by Angles, the content is collected in **real-time** and injected into the virtual thematic environment as required by Claim 1 of the '724 Patent. Angles also discloses that “advertising module 62 accesses the **accounting database 72** and **debits** appropriate **advertiser account**, **credits** the content provider account and **credits** the appropriate **consumer account**.” *Id.*, 21:7-10. As Mr. Crane explains in his declaration, Angles “teaches how to integrate custom advertisements into signs and billboards displayed in online content including on-line games such as interactive car races” where “collecting content [is] in real-time” (Ex-1004, ¶162). Ex-1004, ¶¶ 159-163.

5. Claim 4: The system according to claim 1, further comprising: at least one data storage.

Angles teaches this limitation. *See* §§ VII.A.1.(a), VII.A.2.(a)-(c), VII.A.2.(e) and VII.A.4; Ex-1004, ¶¶ 164-166.

6. Claim 5: The system according to claim 1, wherein said program of said processor further comprises: at least one communication module which provides access to various network services and connection options.

Angles discloses a communication module as required by Claim 1 by disclosing a consumer browsing module “which allows a consumer to access different content providers through the communication medium 20.” Ex-1007, 10:43-50. “The consumer browser 40 uses the **TCP/IP Internet protocols** to establish a **communications link** with the content server 50.” *Id.*, 19:22-24. “The

content provider computer 14 ... uses the **HTTP protocols** to transfer an electronic page 32 to the consumer computer 12.” *Id.*, 19:22-27. “Transmission Control Protocol/Internet Protocol (TCP/IP) ... specifies how ... computers exchange data over the Internet ... such as packetization, packet addressing, handshaking and error correction.” *Id.*, 7:10-14; *See also* §§ VII.A.1.(a), VII.A.2.(a)-(d) and VII.A.2.(f); Ex-1004, ¶¶ 167-171.

7. **Claim 6: The system according to claim 5, wherein said communication module includes network and security features which provide integrity of users and secure interaction between the virtual thematic environment and sponsors.**

Angles discloses that the communication module includes network and security features which provide integrity of users and secure interaction between the virtual thematic environment and sponsors as required by claim 6 by disclosing communication of cookie data between advertisers and consumers over a network connection and by using programming language that is robust and secure. For example, “the consumer control module 42 in the consumer computer 12 ... receive[s] a Java plug-in ... which creates a separate window which can display customized advertisements 30 on the consumer computer 12. The Java programming language is a **robust, secure**, architecture-neutral, portable, general-purpose programming language developed by Sun Microsystems.” Ex-1007, 23:16-23. Moreover, “the cookie will only be transmitted over a secure network

connection” if “secure is included in the cookie.” *Id.*, 11:23-25; *See also* §§ VII.A.1.(a), VII.A.2.(a)-(e) and VII.A.6; Ex-1004, ¶¶ 172-174.

8. Claim 7: The system according to claim 6, wherein said security features include authentication, anti-cheating mechanisms, and financial audit functions.

Angles teaches this limitation. Angles discloses that the “advertisement provider ... stores advertisement **audit** information in the **accounting** database” (Ex-1007, 15:65-66), that “specifies which advertisement was sent to the consumer computer 12, which consumer computer 12 received the advertisement, which consumer viewed the advertisement and which Internet provider 34 ... provided Internet 33 access to the consumer computer 12.” *Id.*, 19:5-10. “The advertising **audit information** includes the consumer member code 22 and the content provider member code 54 ... [which] determines **which advertiser should pay** for the customized advertisement 30 and **debits** the appropriate advertiser account, ... **credits** the appropriate consumer account, ... **credits** the consumer’s Internet provider account number, [and] **access charges** are reduced each time a consumer views a customized advertisement 30.” *Id.*, 21:12-24. As explained by Mr. Crane in his declaration, “if a cookie is marked **secure** ... that secure cookies will only be sent to HTTPS ... over SSL ... servers” (Ex-1004, ¶ 176) and “the SSL protocol is designed to provide **privacy**” and “to **authenticate** the server, and optionally the client.” *Id.*, ¶ 177. The “SSL version 3.0, dated March 1996 ... is a security

protocol that prevents **eavesdropping, tampering, or message forgery** over the Internet.” *Id.*, ¶ 178; *See also id.*, ¶¶ 179-181; §§ VII.A.4 and VII.A.7.

9. Claim 9: The system according to claim 2, wherein said GUI module comprises: a physics engine which controls behavior of objects affected by laws of nature.

Angles teaches this limitation. Angles discloses that the “embodiment shown in FIG. 9 allows the customized advertisements 30 to be incorporated directly into the content providers offerings ... such as **on-line games, video programming, ..., virtual reality environments** and the like.” Ex-1007, 21:53-60. In “on-line games such as **interactive car races** ..., the content provider computer 14 can integrate the customized advertisements 30 into signs and billboards which appear in the **interactive game**.” *Id.*, 21:60-65. “[T]he content provider computer 14 can integrate the customized advertisements 30 into three dimensional worlds defined by the **Virtual Reality Modeling Language**”, e.g., display **a three-dimensional mall, shopping center or city** which displays customized advertisements 30 on virtual reality posters and billboards.” *Id.*, 21:65-22:8. Virtual reality or interactive games are designed to mirror a real-life experience (*i.e.*, objects affected by laws of nature). As explained by Mr. Crane in his declaration, “the simulation of real-world physics was a large part of the attraction of car racing games.” Ex-1004, ¶ 183; *See also id.*, ¶¶ 182-184; §§ VII.A.1.(a), VII.A.2.(a), VII.A.2.(c)-(d), (g).

10. Claim 10: The system according to claim 2, wherein said GUI module comprises: an Artificial Intelligence (AI) engine which controls behavior of objects and the virtual thematic environment.

Angles teaches this limitation. *See* §§ VII.A.1.(a), VII.A.2.(a), VII.A.2.(c)-(g), VII.A.9. As Mr. Crane explains in his declaration, it would have been obvious to a POSITA to use an AI engine which controls behavior of objects and the virtual thematic environment. Ex-1004, ¶¶ 185-187.

11. Claim 11: The system according to claim 2, wherein said GUI module comprises: a mini-applications library.

Angles teaches this limitation. As explained by Mr. Crane in his declaration, “a POSITA would have considered an applet to be a mini-application.” Ex-1004, ¶ 189. And Angles discloses that “the consumer control module 42 ... is adapted to receive a Java plug-in” and that “Java supports programming ... in the form of independent Java ‘applets’.” Ex-1007, 23:15-24; *See also* §§ VII.A.1.(a), VII.A.2.(a), VII.A.2.(c)-(e); Ex-1004, ¶¶ 188-191.

12. Claim 12: The system according to claim 2, wherein said GUI module comprises: a thematic application/publication/game content component which provides a storage facility for all thematic content required in the virtual thematic environment.

Angles teaches this limitation. Angles discloses that “[T]he consumer computer 12 stores the customized advertisements 30 on the advertising storage medium 44” that when directed “**retrieve[s] the customized advertisement 30**

from the advertising storage medium 44.” Ex-1007, 23:28-35. As explained by Mr. Crane in his declaration, “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” and the “storage facility would provide storage for **all thematic content required in the virtual thematic environment**”. Ex-1004, ¶¶192-194; *See also* §§ VII.A.1.(a), VII.A.2.(a), VII.A.2.(c)-(f).

13. Claim 13: The system according to claim 2, wherein said GUI module comprises: a networking interface which provides access to various network services required to support a server environment.

Angles teaches this limitation. As explained by Mr. Crane in his declaration “the web browser ... disclosed by Angles ... accesses such network services as HTML pages” (Ex-1004, ¶196) “to perform such network services as registration with an advertiser” (*id.*, ¶197) as well as “other network services” (*id.*, ¶198). Moreover, Angles discloses that “an Internet provider 34 connects a consumer computer 12 to the Internet 33 ... [and] is connected to an **Internet routing hub** via a high speed communication link.” Ex-1007, 9:56-59. “**Routers** move information packets between **network** levels ... until the packet reaches the neighborhood of its destination ... [and] comprise domain name system (DNS) **servers** ... that is called upon to translate domain names to and from Internet

Protocol (IP) addresses.” *Id.* 11-25; *See also* §§ VII.A.6, VII.A.7.

14. Claim 14: The system according to claim 2, wherein said GUI module comprises: a thematic application/publishing/game logic and scripting component which takes data from a rule set and from external sources and modifies the virtual thematic environment.

Angles teaches this limitation. Angles discloses that the “advertisement provider ... creates a program called a ‘**content provider script**’ for each content provider, and transfers an ‘advertisement request’ to the content provider which identifies the content provider script.” Ex-1007, 3:32-37. “The advertisement request ... contains commands which invoke the **content provider script** ... [and] the content provider embeds the advertisement request into its electronic documents ... [that] **directs** the consumer computer to **invoke** the referenced **content provider script** in the advertisement provider computer ... [that] obtains the content provider member code ... to track the number of advertisements displayed by a particular content provider.” *Id.*, 3:38-53. The consumer computer being directed to invoke the referenced content provider script, as disclosed by Angles, is the rule set as required by Claim 14 of the ’427 Patent. Angles also discloses that “Common Gateway Interface (**CGI**) ... specifies how a Web server ... launches and interacts with external programs ... in response to requests from clients.” *Id.*, 6:4-8. “When the consumer computer 12 receives the electronic page 32, it executes the embedded advertisement request 26 ... [that] directs the

advertisement provider computer 18 to execute a content provider script ... [that] contains a content provider member code ... to track the number of advertisements viewed by the consumer computers 12 connected to a particular content provider computer 14.” *Id.*, 7:61-8:7; *See also* §§ VII.A.1.(a), VII.A.2.(a), VII.A.2.(c)-(f); Ex-1004, ¶¶ 200-205.

15. Claim 16: The system according to claim 3, wherein said content logic module comprises: an accounting, billing, and customer support module which provides for information modification and customer support, including billing.

Angles teaches this limitation. Angles discloses that the “**accounting** database is ... configured to **update billing** information based on said consumer activities” (Ex-1007, 24:55-59) and the updating is one of “said **bill**, said **credit**, and said consumer **credit**, based on said activities.” *Id.*, 26:17-19. As Mr. Crane explains in his declaration, Angles teaches the claimed **information modification and customer support** by enabling a consumer to enter personal demographic information, supporting a customer’s desire to receive targeted advertisements.” Ex-1004, ¶¶ 206-210; *See also* §§ VII.A.4, VII.A.8.

16. Claim 18: The system according to claim 3, wherein said content logic module comprises: a reporting tools module which provides internal and external reporting tools.

Angles teaches this limitation. Angles discloses that the “advertisement provider computer ... include[s] a registration module 60, an advertising module

62, a **registration database** 68, an **advertisement database** 70 and an **accounting database** 72. The registration module ... allows customers to register with the advertisement provider computer 18.” Ex-1007, 13:47-52. “The registration module 60 displays a **HTML document** which prompts the consumer to enter demographic data ... including ... age, sex, income, career, interests, hobbies, consumer preferences, the account number ..., other account information, etc. [and] ... stores the demographic data ... in the **registration database** 68.” *Id.*, 14:16-26. “The registration module 60 ... sends a copy of the consumer member code 22 to be stored in a cookie on the consumer's computer 12. When a content provider registers ... the registration module 60 displays a HTML document ... to enter demographic data ... and ... stores the data in the registration database 68.” *Id.*, 14:29-43. “The registration **database** 68 is implemented with **Structured Query Language (SQL) code** ... for defining, **updating and querying relational databases.**” *Id.*, 14:51-58. As explained by Mr. Crane in his declaration, “Angles disclosed monitoring consumer activity ... including ... the number of views of particular advertisements” (Ex-1004, ¶215) and further that “a number of views is converted to a commensurate payment to a third party” and that “it would be obvious that there would likely be a reporting component.” *Id.*, ¶ 216); *See also id.*, ¶¶ 211-216; §§ VII.A.1.(a), VII.A.2.(a)-(b), (f), (g).

17. Claim 20: The system according to claim 4, wherein said data storage comprises: a real-time thematic environment database which maintains a state of each user and the virtual thematic environment.

Angles teaches this limitation by disclosing that “[t]he system ... **track** consumer responses to the advertisement” (Ex-1007, 2:45-49) and further that “[t]he advertisement provider uses the content provider member code to **track** the number of advertisements displayed by a particular content provider.” *Id.*, 3:51-53. As explained by Mr. Crane in his declaration, a 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 ... [and] 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 ... [and] that said changes are stored under the control of the rendering system.” Ex-1004, ¶ 218; *See also* §§ VII.A.1.(a), VII.A.2(a), (c)-(d), VII.A.4, VII.A.8, VII.A.9, VII.A.14-16.

18. Claim 21: The system according to claim 1, further comprising a product placement interface within said virtual thematic environment, which seamlessly connects to a product sponsor external to said virtual thematic environment, at which a product is sold.

Angles teaches this limitation. Product placement interface within the

virtual thematic environment seamlessly connect to a product sponsor external to the virtual thematic environment because Angles discloses that “if a consumer wishes to obtain additional information about an advertised product or service, the consumer may simply use a mouse to select an embedded hyper-link in the **custom advertisement** and be immediately **transported to an advertiser’s website** ... [to] receive a directed sales pitch, more information or a purchase order request form.” Ex-1007, 4:9-16. The website that the user is transported to is the website at which a product is sold. Moreover, “when a content provider registers ... the registration module 60 displays a HTML document ... to enter ... the **type of products and services sold** by the content provider ... etc.” *Id.*, 14:33-40. *See also* §§ VII.A.1.(a), VII.A.2.(a), (c)-(d), VII.A.4, VII.A.8-9, VII.A.15; Ex-1004, ¶¶ 220-224.

19. **Claim 22: The system according to claim 1, further comprising: a timing mechanism which requires that a task performed on the worldwide web or internet must be performed within a certain period of time or on a competitive level with one or more opponents at a sponsored internet site.**

Angles teaches this limitation. As Mr. Crane explains in his declaration, “the ‘interactive car race’ disclosed by Angles ... is, by definition, a competition played **on a competitive level with one or more opponents** as claimed” (Ex-1004, ¶ 226) and that “the Cookie used to identify a “consumer member code” ...

contains the claimed **period of time** during which it is active” (*id.*, ¶ 226) “to identify the consumer and look up ... information ... within a certain period of time before the cookie is ‘forgotten by the browser.’” *Id.*, ¶ 227); *See also* §§ VII.A.1.(a), VII.A.2.(a), (c)-(d), VII.A.4.

20. Claim 23: The system according to claim 21, further comprising: a purchase mechanism which allows real-world credit or virtual credit to be used for payments of said product at said internet website of said product sponsor.

Angles teaches this limitation. Angles discloses that in “**digital cash** commerce, a consumer who maintains an **electronic bank account** and a payee who maintains an **electronic bank account** can engage in **on-line transactions**. When the consumer purchases a good or service with digital cash, the consumer's **bank account** is automatically **debited** and the **payee's bank account** is automatically **credited**. Likewise, when providing a **digital cash refund or transfer**, the payee can **debit** its own **bank account** while crediting the consumer's bank account.” Ex-1007, 6:16-24) “The ... digital cash ... can [be] use[d] to **purchase other goods and services** offered for sale on the Internet 33.” *Id.*, 16:39-44. “The advertising module 62 ... credits a consumer's **digital cash** account ... to **purchase goods and services**.” *Id.*, 21:25-29; *See also* §§ VII.A.4, VII.A.8, VII.A.15; Ex-1004, ¶¶ 229-231.

B. Ground 2: Robinson in View of the Knowledge of One of Ordinary Skill in the Art Renders Obvious Challenged Claims 1-7, 9-14, 16, 18, 20-23.

1. Prior Art

(a) Overview of Robinson (Ex-1008)

Robinson was filed on Dec. 20, 2000, and published on Aug. 22, 2002. It thus qualifies as prior art under pre-AIA 35 U.S.C. §§ 102(a), 102(b), and 102(e)(1)-(2) against the '724 Patent. Robinson “relates to network-enabled three-dimensional computing environments.” Ex-1008, 1:17-18. FIG. 3 of Robinson reproduced below “illustrates a system diagram of the architecture of the 3D computing environment” (*id.*, 2:13-14) with “a three-dimensional user interface, allowing the user to navigate their computer’s contents with ease” (*id.*, 7:29-30). In some cases, the “3D Desktop includes a quick-to-download software file that converts the user’s conventional 2D desktop into a 3D ‘room’ environment.” *Id.*, 7:35-37. The “network-enabled 3D computing environment ... has several extensions, including ... **real-time avatars** ... representations of users, allowing them to **interact** with other users across a network ... [that] would allow for intra- and inter-company meetings, the extension of the online communities which exist today, virtual concerts, **online games**, etc.” *Id.*, 9:29-37; Ex-1004, ¶¶ 109-113.

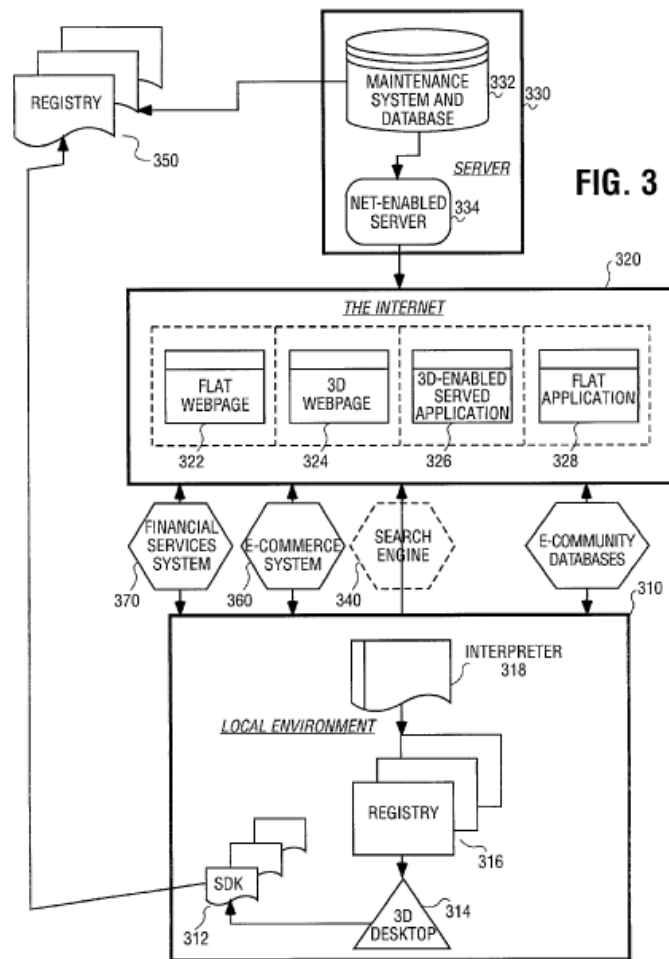


FIG. 9 reproduced below “illustrates ... a user desktop 910 with a Persistent Client Window 912.” Ex-1008, 14:19-20. “2D or ‘3D/spatial’ advertisements, promotions, or messages” can be placed “in the Persistent Client Window 912 that, when clicked ... will **activate full or partial-screen interactive 3D virtual reality environment advertisements** ... equipped with e-commerce capabilities, such as **links to product/service ordering** websites.” *Id.*, 15:5-11. “Upon activation of a related link provided within region 916, **the user is taken to a**

related website where an e-commerce transaction corresponding to the advertisement may be initiated.” *Id.*, 15:21-25. The embodiments “can be used to embed a similar [virtual reality] VR/spatial environment behind a static or dynamic two dimensional (2D) advertisement that is placed in the Persistent Client window 912 ... [that] when ... **selected by a user/viewer** ... the advertisement enlarges into a partial or full-screen VR/spatial environment that the **user can move through spatially** and take advantage of the media-enriched features of the advertisement.” *Id.*, 15:31-40. “If the advertisement is a 3D VR environment, **the user can click onto an avatar section of the advertisement and choose a virtual body (avatar)** that will be the identification or **representation of the user's presence in the 3D advertisement VR environment** ... then virtually walk around that advertisement, meet other virtual users who have entered into the collaborative VR advertisement ... [and] **converse with each other** about the content of the advertisement.” *Id.*, 15:48-57; Ex-1004, ¶¶ 114-126.

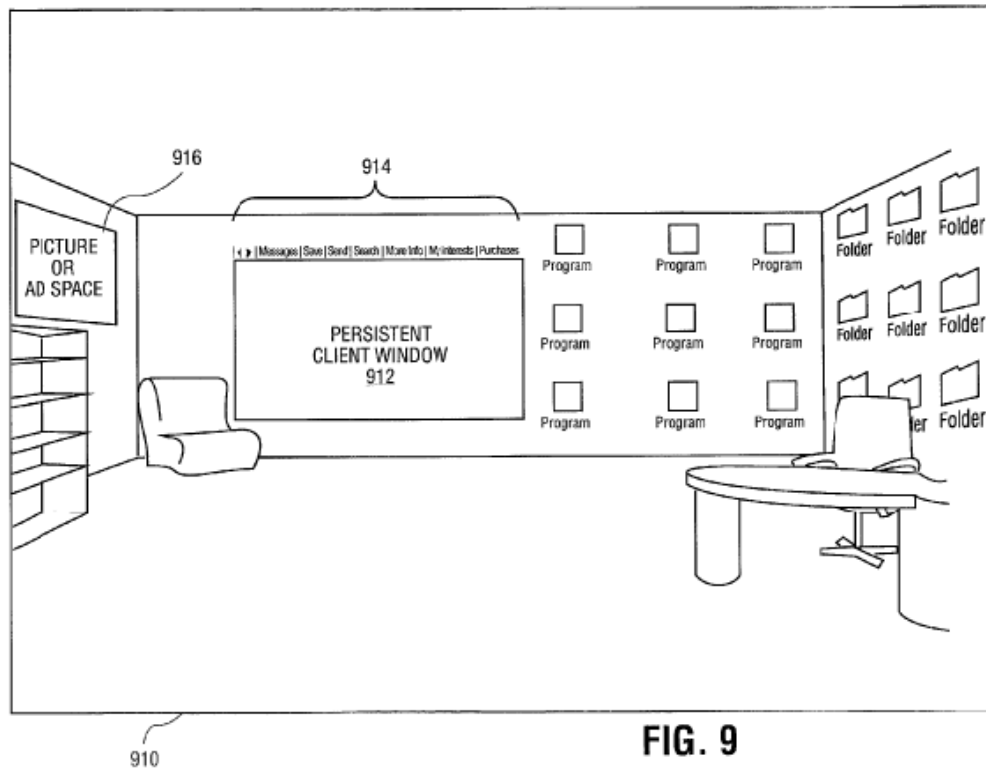


FIG. 9

As explained by Mr. Crane in his declaration (*id.*, ¶¶232-236), Robinson in view of the knowledge of a POSITA would render the Challenged Claims obvious as detailed by the element by element claim analysis below.

2. Claim 1

- (a) 1[preamble]: A computer system having an interactive software application platform for providing a virtual thematic environment, comprising:**

To the extent the preamble is limiting, Robinson teaches this limitation.

Robinson discloses a “**computer** network-based system ... to ... provide network-enabled three-dimensional **computing environments**.” Ex-1008, Abstract. The users “**interact** ... and ... create an intuitive **3D** desktop environment” where “the user’s **computer** screen displays a **3D room or scene**, which can be **customized with virtual objects**. The user can ‘enter’ the space, ..., operate intuitively within it (360° in every direction), and invite others to enter, participate and **interact** in that ... **interactive environment**.” *Id.*, 1:55-67. “The network-enabled 3D **computing** environment has several extensions, including: introduction of **real-time avatars**” (*id.*, 9:29-31) to support **interactive** online communities “such as **online games**.” *Id.*, 33-37. An interactive environment such as a 3D room or scene that is customized with virtual objects facilitating real-time avatars that supports online games, as disclosed by Robinson, is a theme-based virtual computer interface, consistent with *Barbaro* claim construction order (Ex-1010, page 11) for “virtual thematic environment.” Applicant’s own interpretation in the ’299 Application provides a **game** as an example of a virtual thematic environment. Ex-1003, page 280; *See also*, Ex-1004, ¶¶ 237-241.

(b) 1[a]: a processor which executes a program having a plurality of modules, said plurality of modules including:

Robinson teaches this limitation. Robinson discloses a processor and a memory with instructions that are executed by the processor for performing

various functions (i.e., **modules**) to provide a 3D computing environment, to allow a user to navigate the content, to display, etc. For example, “a conventional computer system, system unit 202 includes a **processing** device such as **processor** 220 in communication with main memory 222 ... capable of storing data as well as **instructions** to be executed by **processor** 220.” Ex-1008, 3:62-4:4. “The user requested ... software with the appended 3D environment persistent kernel ... is downloaded to client machine 460 ... [and] the persistent 3D kernel is automatically installed on the user’s desktop environment.” *Id.*, 10:23-29; *see also* Ex-1004, ¶¶ 242-244.

- (c) **1[b]: at least one thematic/publishing logic module which contains virtual thematic environment rules configured for a gaming environment, the at least one thematic/publishing logic module being configured to allow a user to interact within said virtual thematic environment and upon a predetermined action within said virtual thematic environment, automatically exit the virtual thematic environment, and one of copy or grab data or objects from a website external to the virtual thematic environment, to be utilized in the virtual thematic environment;**

Robinson teaches this limitation. “The network-enabled 3D **computing** environment has several extensions, including: introduction of **real-time avatars**” (Ex-1008, 9:29-31) to support **interactive** online communities “such as **online games**.” *Id.*, 9:33-37. As explained by Mr. Crane in his declaration “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.” Ex-1004, ¶ 246.

According to Robinson, the user can view an advertisement, select a portion of an advertisement and be taken to a website (i.e., exiting the interactive online game, consistent with Applicant’s own arguments presented in the prosecution of the ’299 Application regarding automatically exiting the virtual thematic environment), where the user can copy or grab data from the website (which is external to the virtual thematic environment) and bring it back to the interactive online game to customize the VR advertisement environment. For example, “the ... advertisements, promotions, or messages ... **when clicked on by a user/viewer**, will activate full or partial-screen interactive 3D virtual reality environment advertisements that ... **a user/viewer can view** ... and select a portion of the advertisement ... **by clicking on a portion of region** ... [and] upon activation of a related link ... **the user is taken to a related website** where an e-commerce transaction ... may be initiated.” Ex-1008, 15:5-25. “The ... users ... customize a “private” or “user-customized” version of the VR advertisement environment ... [with] objects, textures or colors **in a toolbar or other section of the advertisement** ... that the user can **drag and drop** to **customize** that VR advertisement environment.” *Id.*, 16:34-42. “If the advertisement is a 3D VR environment, the user can **click** onto an **avatar section of the advertisement** and

choose a virtual body (avatar) that will be the **identification** or representation of **the user's presence in the 3D advertisement VR environment.**" *Id.*, 15:48-52;

See also §§ VII.B.1.(a), VII.B.2.(a); Ex-1004, ¶¶ 245-250.

- (d) **1[c]: wherein said data or said objects are automatically integrated into the virtual thematic environment during execution of the virtual thematic environment;**

Robinson teaches this limitation. As explained by Mr. Crane in his declaration "A new product ... is **integrated into the user's 3D desktop** via the drag-and-drop interface ... [and] upon the "drop" of an object it is re-integrated into its environment" (Ex-1004, ¶ 251) and since "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.**" *Id.* As Mr. Crane explains in his declaration, the integration of the customized advertisements with the offerings happens automatically without human initiation or intervention.⁵

"The ... database ... communicate[s] with the registry 350, allowing for

⁵ Mr. Crane's opinion is consistent with the PTAB's decision in the appeal filed by the Applicant during the prosecution of the '028 Patent. In its decision, the PTAB determined that if "integration ... is effected by physical operation of the user," it "is thus not automatic."

periodic updates to the network-enabled 3D computing environment-based protocols, as well as increasing the **library of graphical objects**.” Ex-1008, 8:44-50. A “spatial 3D environment ... can be navigated 360 degrees from left to right ... [where] a server that contains advertisements or messages that can be **dow[n]loaded and buffered** onto the user’s computer.” *Id.*, 12:57-62; *See also* §§ VII.B.1.(a), VII.B.2.(a), VII.B.2.(c).

- (e) **1[d]: at least one digital content library module which provides content management on the virtual thematic environment; and**

Robinson teaches this limitation. “The **registry object 350** is a database that **distributes and tracks** ... computing environment visual objects, **stores objects to be downloaded** to the user object 310 and **the network-enabled 3D computing environment**, and contains software updates for the network-enabled 3D computing environment's **structured software developer's kits (SDKs) 312**.” Ex-1008, 7:14-22; *See also* §§ VII.B.1.(a), VII.B.2.(a), VII.B.2.(c)-(d); Ex-1004, ¶¶ 253-255.

- (f) **1[e]: at least one quantum imaging environment (QIE) module which interprets content such that said content is manipulated and accessed by any device; and**

Robinson teaches this limitation. Robinson discloses that a three-dimensional environment may be downloaded by a user to their desktop, PDA, cell

phone, etc. (therefore any device) where an interpreter interprets incoming data for presentation to the desktop. For example, “the user receives an invitation ... to download the three dimensional environment ... to their **user desktop, personal digital assistant (PDA), cell phone**, or other **information appliance or display device**. (Block 720).” Ex-1008, 12:13-18. “The **interpreter** 318 ... allows the 3D desktop 314 to **interpret incoming data** from the Internet 320, **for presentation** to the desktop 314.” *Id.*, 7:55-58. “The **interpreter** will have increasing functionality for handling plug-ins ... in the 3D paradigm ... [and] can ... sort through 3D-specific functionality in the plug-ins produced by various major players in the plug-in industry.” *Id.*, 7:62-67; *See also* Ex-1004, ¶¶ 256-259.

(g) 1[f]: a display which displays the virtual thematic environment as images.

Robinson teaches this limitation. “Computer system 200 ... [is] coupled ... to a **display device** 204, such as a cathode ray tube (CRT) or a liquid crystal display (LCD), **for displaying information**” (Ex-1008, 4:17-23) for supporting “**real-time avatars**” (*id.*, 9:31) in “**interactive online community**” such as “**online games**.” *Id.*, 9:33-37; Ex-1004, ¶ 260.

3. Claim 2: The system according to claim 1, wherein said program of said processor further comprises: at least one graphical user interface (GUI) module.

Robinson teaches this limitation. Robinson discloses that “Graphical User

Interfaces (**GUIs**) enabled users to address computers with 2D icons” (Ex-1008, 1:41-43) and “3D computing environment ... employing a three-dimensional **user interface**.” *Id.*, 6:63. A GUI, as disclosed by Robinson, is a “software that provides a graphical display and processes user inputs to allow a user to interact with the graphical display” consistent with *Barbaro* claim construction order. Ex-1010, page 5; *See also* §§ VII.B.1.(a), VII.B.2.(a)-(d); Ex-1004, ¶¶ 262-265.

4. Claim 3: The system according to claim 1, wherein said program of said processor further comprises: at least one content logic module directed to accounting, sponsor and users, transactions, and collecting content in real-time and injecting said content into the virtual thematic environment

Robinson teaches this limitation. For example, Robinson discloses that “the **furniture company** makes their entire furniture line available **to drag and drop into the scene** ... [and] when the **user** has added furniture ... to their satisfaction, ... then **purchase** the selected furniture ... similar to an e-commerce shopping cart. User interactions ... can ... be tracked ... for profiling user preferences and in focused marketing.” Ex-1008, 6:26-42. “The **Financial Services** system 370 ... applies more advanced features ... to conduct additional **transactions** in less time ... and to **conduct banking and other financial transactions online**.” Ex-1008, 9:18-26. Robinson discloses a sponsor (e.g., furniture company) and users (e.g., purchasers), where the users can drag and drop furniture into a scene (i.e., injecting content such as furniture into the virtual thematic environment such as a scene) and

once satisfied the user can purchase the furniture, thereby having an accounting mechanism for the transaction. *See* §§ VII.B.1.(a), VII.B.2.(a), (c)-(e); Ex-1004, ¶¶ 266-269.

5. Claim 4: The system according to claim 1, further comprising: at least one data storage.

Robinson teaches this limitation. For example, data is received “from **fixed or removable media storage devices** such as disk 212 and network connection interfaces (not illustrated).” Ex-1008, 3:52-55. “In a conventional computer system, system unit 202 includes a ... **main memory** 222 which may include various types of **cache**, random access memory (**RAM**), or other **high-speed dynamic storage devices**.” *Id.*, 3:62-67. “Computer system 200 also comprises a read only memory (**ROM**) and/or other **static storage device** 224.” *Id.*, 4:6-8; *See also* §§ VII.B.1.(a), VII.B.2.(a)-(e); Ex-1004, ¶¶ 270-272.

6. Claim 5: The system according to claim 1, wherein said program of said processor further comprises: at least one communication module which provides access to various network services and connection options.

Robinson teaches this limitation. For example, Robinson discloses that “a **communication** device 226 ... accessing remote computers or servers ... may include a **modem**, a **network interface card**, or other well-known **interface** devices ... for interfacing with **Ethernet**, **Token-ring**, or other types of **networks**” and “may be coupled to a **number of servers** 100 via a **network infrastructure**.”

Ex-1008, 4:44-52; *See also* §§ VII.B.1.(a), VII.B.2.(a)-(d), (f), VII.B.4; Ex-1004, ¶¶ 273-275.

7. **Claim 6: The system according to claim 5, wherein said communication module includes network and security features which provide integrity of users and secure interaction between the virtual thematic environment and sponsors.**

Robinson teaches this limitation. “**Networks** 110 and 116 may each be organized as either a wide area network (**WAN**) ... or a local area network (**LAN**) which ... may include conventional **network backbones**, long-haul telephone lines, Internet service providers, various levels of **network routers**, and other conventional means for routing data between computers. Each network 110 and 116 may be **private**, ... or public.” Ex-1008, 2:62-3:5. Robinson discloses that “users within an intranet may be given access ... through **firewall** servers that have the ability to screen incoming and outgoing messages so that **network security** is maintained.” *Id.*, 3:8-11. A network designed as private/public with firewall maintains appropriate network security, as disclosed by Robinson, which provides integrity of users and secure interaction between the virtual thematic environment and sponsors as required by Claim 6. *See* § VII.B.6. As explained by Mr. Crane in his declaration “the use of encryption and SSL were well known in the art prior to the filing of the ‘724 patent and would have been an obvious improvement where security was desired.” Ex-1004, ¶¶ 276-280.

8. **Claim 7: The system according to claim 6, wherein said security features include authentication, anti-cheating mechanisms, and financial audit functions.**

Robinson teaches this limitation. *See* §§ VII.B.4, VII.B.7; Ex-1004, ¶¶ 281-283.

9. **Claim 9: The system according to claim 2, wherein said GUI module comprises: a physics engine which controls behavior of objects affected by laws of nature.**

Robinson teaches this limitation. As explained by Mr. Crane in his declaration “Robinson disclosed extensions of the 3D desktop invention including 3D avatars, virtual concerts, online games, etc.” and “the use of avatars in video games, including such “conventional technology” as used in Quake and Diablo.” Ex-1004, ¶285. As explained by Mr. Crane “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.” *Id.*, ¶ 286.

Robinson discloses that “in our **physical** world, we are accustomed to entering into ‘rooms’.” Ex-1008, 5:51-52. “The present invention makes the computer a more user-friendly and intuitive environment by **turning the computer desktop into a “room” that its users can enter** ... [which] can take the appearance of a room, a neighborhood, city or landscape ... and ... **supporting real three-dimensional objects.**” *Id.*, 5:53-63. Accordingly, the embodiments of

Robinson are also governed by physics engine which controls the behavior of objects affected by law of nature as required by Claim 9. Moreover, Robinson discloses that for a toy company employing the present invention “**an object moved by one person is seen by all.**” *Id.*, 6:45-58. The movement of the object in the 3D environment is affected by law of nature and controlled by physics engine.

10. Claim 10: The system according to claim 2, wherein said GUI module comprises: an Artificial Intelligence (AI) engine which controls behavior of objects and the virtual thematic environment.

Robinson teaches this limitation. Robinson discloses that “as a user navigates through the virtual 3D landscape, certain **use patterns or information ... triggers a targeted message** to be delivered through the ... **avatar** [that] **can engage the user in chat** to deliver the advertiser's message, ... acquire ... data ... that could be asked of the user, and then **present the user with interactive options to engage them further.**” Ex-1008, 17:3-13. The patterns triggering a targeted message delivered through the avatar is AI controlled. As explained by Mr. Crane in his declaration, it was well known in the art that nonplayer characters were controlled by an AI that governed their behavior. Ex-1004, ¶¶ 288-291; *See also* §§ VII.B.1.(a), VII.B.2.(c)-(d).

11. Claim 11: The system according to claim 2, wherein said GUI module comprises: a mini-applications library.

Robinson teaches this limitation. “The SDK 312 allows the user to create

3D-enabled applications.” Ex-1008, 7:48-50. “The interpreter 318 ... allows the 3D desktop 314 to interpret incoming data ... [that] includes: **applications** 326 ... for the 3D environment, **applications** 328 ... not enabled for the 3D environment, and **standard industry plug-ins** (such as RealAudio, Flash, etc.) ... [with increased] **functionality for handling plug-ins** ... to sort through 3D-specific functionality in the **plug-ins produced by various major players.”** *Id.*, 7:55-67. As explained by Mr. Crane in his declaration “a library of applications that operate within the virtual thematic environment would disclose the claimed **mini-applications library**” and that Robinson disclosed the ability to customize “the 3D desktop with programs that include email.” Ex-1004, ¶ 294. The “3D desktop further supports a library of applications from other corporations ... [that] can be delivered into the GUI module.” *Id.*, ¶295; *See also id.*, ¶ 293, 296; §§ VII.B.1.(a), VII.B.2.(a), (c)-(e).

12. Claim 12: The system according to claim 2, wherein said GUI module comprises: a thematic application/publication/game content component which provides a storage facility for all thematic content required in the virtual thematic environment.

Robinson teaches this limitation. *See* §§ VII.B.1.(a), VII.B.2.(a)-(f), VII.B.5, VII.B.11; Ex-1004, ¶¶ 298-304.

- 13. Claim 13: The system according to claim 2, wherein said GUI module comprises: a networking interface which provides access to various network services required to support a server environment.**

Robinson teaches this limitation. *See* §§ VII.B.1.(a), VII.B.2.(a)-(f), VII.B.6, VII.B.7; Ex-1004, ¶¶ 305-307.

- 14. Claim 14: The system according to claim 2, wherein said GUI module comprises: a thematic application/publishing/game logic and scripting component which takes data from a rule set and from external sources and modifies the virtual thematic environment.**

Robinson teaches this limitation. “In one embodiment ... the 3D computing environment uses an **XML-based markup language** ... that allows a webpage to be simultaneously delivered ... as a three-dimensional webpage ... [and] allows users to develop 3D webpages 324.” Ex-1008, 8:14-21. The webpage is external to the virtual thematic environment and the 3D computing uses a rule set, e.g., XML-based markup language, to modify the webpage and develop 3D webpages. “**Applications 328 built by other corporations** can also use the **extended markup language** ... to make their tools 3D-enabled.” *Id.*, 8:25-28. The applications used in extended markup language have a rule set enabling their tools to become 3D-enabled. Moreover, as explained by Mr. Crane in his declaration a virtual environment is defined to be rendered where objects are defined with shape, position, orientation, and other visual and ‘physical’ attributes. Ex-1004, ¶ 311.

Mr. Crane explains that the definition of an object in the virtual environment would be the claimed **rule set**. *Id.* Moreover, information associated with 3D VR advertisement and the avatar walking around come from an external source and with the rules create the virtual experience. *Id.*, ¶ 312; *See also id.*, ¶¶ 308-313; §§ VII.B.1.(a), VII.B.2.(a)-(f), VII.B.5, VII.B.9-12.

15. Claim 16: The system according to claim 3, wherein said content logic module comprises: an accounting, billing, and customer support module which provides for information modification and customer support, including billing.

Robinson teaches this limitation. *See* §§ VII.B.1.(a), VII.B.2.(a)-(f), VII.B.4; Ex-1004, ¶¶ 314-316.

16. Claim 18: The system according to claim 3, wherein said content logic module comprises: a reporting tools module which provides internal and external reporting tools.

Robinson teaches this limitation. As explained by Mr. Crane in his declaration, Robinson's Persistent Client frequently **reports** user profile and metrics information to the 3D server/registry (internal), and ultimately to an e-community database provider (external). Ex-1004, ¶318.

Robinson discloses "data processing system 200 then processes data and presents resulting output data via output devices such as **display** device 204, **printer** 210." Ex-1008, 3:55-58. The display/printer can render the user profile/metrics information.

17. Claim 20: The system according to claim 4, wherein said data storage comprises: a real-time thematic environment database which maintains a state of each user and the virtual thematic environment.

Robinson teaches this limitation. As explained by Mr. Crane in his declaration, a virtual environment rendered to a game client includes state of dynamic objects (other avatars/AI-controlled customer service representatives/animating products/etc.), which contain the same properties as static objects (i.e., shape/position/orientation/other visual/physical attributes) but change in real time (due to dynamic nature) as objects move and the virtual environment evolves. Ex-1004, ¶ 321.

Robinson discloses that “[A] user 510 may ... **move through** in a three-dimensional computing environment, **interacting** with others, and **viewing** the content ... in a compelling three-dimensional environment.” Ex-1008, 11:15-28. Thus, the state of the user (e.g., movement through the e-community) is maintained. “In this environment, **visual real estate is created** and [shared] with other users ..., advertising ... can be placed and directed specifically to those interest area users ..., the user may **navigate** through the three-dimensional spatial e-community worlds and **link to other sites** and/or perform software downloads via interface 542 to the client machine 560.” *Id.*, 11:28-37; *See also* Ex-1004, ¶¶ 320-324; §§ VII.B.1.(a), VII.B.2.(a)-(f).

18. Claim 21: The system according to claim 1, further comprising a product placement interface within said virtual thematic environment, which seamlessly connects to a product sponsor external to said virtual thematic environment, at which a product is sold.

Robinson teaches this limitation. “The 3D server/registry 550 receives frequent profile information and metrics ... used for ... targeted advertising ... placed on the **Persistent Client**-enabled desktop ... to enable a user to navigate to product offerings.” Ex-1008, 12:48-52. “The sponsor of the advertisement can have **virtual representatives** (corporate avatars) within those **VR advertisement environments** to meet users (their targeted audience members that are now inside of their VR advertisement), to lead **one-on-one or group discussions, answer any questions, share** any additional information or promotional input, etc.” *Id.*, 16:5-10. Thus, the targeted advertising seamlessly connects the user to a product sponsor external to the VR advertisement environments. Robinson discloses that **advertisements/promotions/or messages** displayed may be equipped with e-commerce capabilities and when clicked on by a user/viewer activates an interactive 3D virtual reality environment where a user/viewer can view the advertisement or upon activation of a related link be **taken to a related website where an e-commerce transaction corresponding to the advertisement may be initiated.** *Id.*, 15:5-25; *See also* §§ VII.B.1.(a), VII.B.2.(a)-(g), VII.B.3-4, VII.B.9-10, VII.B.17; Ex-1004, ¶¶ 325-328.

19. **Claim 22: The system according to claim 1, further comprising: a timing mechanism which requires that a task performed on the worldwide web or internet must be performed within a certain period of time or on a competitive level with one or more opponents at a sponsored internet site.**

Robinson teaches this limitation. As explained by Mr. Crane in his declaration, “Robinson disclosed that advertisements contained links to take the user to an advertiser’s website to purchase a product” and “if a user wanted to take advantage of a particular advertised offer, he or she would have to click on the related advertisement within the **certain period of time** during which said advertisement was being displayed.” Ex-1004, ¶¶ 330-331. As disclosed by Robinson, “the computer will **periodically display a different advertisement** or message within the Persistent Client Window per a **predefined cycling period** for rotating the advertisements or messages that are being displayed.” Ex-1008, 12:62-66; *See also* §§ VII.B.1.(a), VII.B.2.(a)-(g), VII.B.10, VII.B.18.

20. **Claim 23: The system according to claim 21, further comprising: a purchase mechanism which allows real-world credit or virtual credit to be used for payments of said product at said internet website of said product sponsor.**

Robinson teaches this limitation. For example, Robinson discloses that the user has the “ability to initiate **purchase** of whatever is being displayed in the Persistent Client Window 912.” Ex-1008, 14:66-67. For example, “the avatar ... offers the user a direct link ... where he can **purchase** a license for album and

download it.” *Id.*, 17:64-67; *See also* §§ VII.B.1.(a), VII.B.2.(a)-(g), VII.B.4, VII.B.19; Ex-1004, ¶¶ 333-335.

VIII. Discretionary Considerations

A. Considerations under 35 U.S.C. § 325(d)

This Petition does not present a scenario in which the “same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d). None of the references relied upon in this Petition have been before the Examiner in connection with the Challenged Claims of the ’724 Patent.

B. Considerations under 35 U.S.C. § 314(a)

Denial under 35 U.S.C. §314(a) is not warranted as the application of the factors in *General Plastic Industrial Co., Ltd. v. Canon Kabushiki Kaisha* to the present circumstances demonstrate that the filing of the instant Petition is not abusive, that none of the Patent Owner, the PTO, or the Board has addressed the merits of the grounds in this Petition, and instituting the present proceeding is an efficient use of the Board’s resources. *See* No. IPR2016-01357, Paper 19 at 16-18 (P.T.A.B. Sept. 6, 2017) (precedential). Petitioner (or anyone else) has never challenged the ’724 Patent in a prior petition.

Moreover, the Petition should not be denied under the discretionary factors set out in *Apple Inc. v. Fintiv, Inc.*, No. IPR2020-00019, Paper 11 at 6 (P.T.A.B. Mar. 20, 2020) (“*Fintiv*”). Petitioner addresses each of those factors below:

1. Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted – No stay pending IPR has been requested by any party in the Related Matter between Patent Owner and Petitioner in the Western District of Texas. Given that a motion to stay has not yet been filed in the Related Matter depending on the outcome of the current IPR proceeding, the Board should not infer or speculate on what the outcome of such a motion would be in determining whether to institute the requested IPR. *Sand Revolution II LLC v. Continental Intermodal Group-Trucking LLC*, No. IPR2019-01393, Paper 24 at 7 (P.T.A.B. June 16, 2020); *Dish Network LLC v. Broadband iTV, Inc.*, No. IPR2020-01359, Paper 15 at 11 (P.T.A.B. Feb. 12, 2021). Thus, this factor is neutral on discretionary denial.

2. Proximity of the court's trial date to the Board's projected statutory deadline for a final written decision – Pursuant to 35 U.S.C. § 316(a)(11), a Final Written Decision in this proceeding would issue 12 months from the institution decision, which is approximately 6 months from the filing date of the Petition. As of the filing of this Petition, the Related Matter in the Western District of Texas is at an early stage: fact discovery in the case has only just begun and no Markman hearing has been held. As the Amended Scheduling Order (Ex-1009) indicates, a trial will not happen in the Related Matter until April 2024 at the earliest. Indeed, district court trial dates shift even in normal times, especially so

when dealing with the voluminous patent case load accumulated during the Covid-19 pandemic. *Mylan Pharma. Inc. v. Sanofi-Aventis Deutschland GmbH*, No. IPR2018-01680, Paper 22 at 17 (P.T.A.B. Apr. 3, 2019). It is thus improper to assume that the district court will stick to the current trial schedule and it is not clear whether a trial in the Related Matter will occur before the date on which a Final Written Decision in this proceeding would be expected. Further, Petitioner has moved to transfer the Related Matter from Waco to Austin. If the transfer motion is granted, the trial date is likely to move further out. Petitioner has also filed a motion to stay the Related Matter pending disposition of the transfer motion, which could also delay the trial date.

Moreover, given the potential length of the trial, the likelihood of post-trial motions, the pending motion to transfer, and the possibility that trial proceedings may be further delayed due to the case load caused by the Covid-19 pandemic, the likelihood is that the trial court proceeding in the Related Matter would not be completed until at or around the same time that a Final Written Decision would be due in this IPR. *Fintiv* states that this factor does not implicate the decision whether to institute “if the court’s trial date is at or around the same time as the projected statutory deadline.” No. IPR2020-00019, Paper 11 at 9. Thus, this factor does not support discretionary denial.

3. Investment in the parallel proceeding by the court and the parties

– As discussed above, the Related Matter is in an early stage and the court has not issued any substantive ruling relating to the '724 Patent. Further, while the Markman hearing is scheduled for September 1, 2023, the claim construction will have little bearing on this proceeding since the Petitioner does not propose any claim terms for construction in this IPR proceeding. As such, this factor weighs against discretionary denial.

4. Overlap between issues raised in the Petition and in the parallel proceedings – Instituting an IPR proceeding will allow the Board to address the prior art, and the issues will be narrowed in the Related Matter due to the estoppel provisions of 35 U.S.C. § 315(e)(2). To reduce overlap further, if the Board institutes IPR in this proceeding, Petitioner will cease asserting in the Related Matter the prior art for the claims on which the IPR is instituted. *See Sand Revolution II*, No. IPR2019- 01393, Paper 24 at 11-12 (holding a similar stipulation weighs against discretionary denial); *Apple Inc. v. Maxell, Ltd.*, No. IPR2020-00204, Paper 11 at 15-17 (P.T.A.B. June 19, 2020) (same). The most efficient course is for the Board to address the issues before it in this Petition, and the district court to address only the issues that would remain. This factor weighs against discretionary denial.

5. Whether the Petitioner and the defendant in the parallel

proceeding are the same party – Petitioner is a defendant in the Related Matter filed by the plaintiff Patent Owner. This factor weighs against discretionary denial.

6. Other circumstances that impact the Board’s exercise of discretion, including the merits – As previously noted, neither the Petitioner nor anyone else has ever challenged the ’724 Patent in a PTAB post-issuance proceeding. Further, as discussed in detail above, the prior art references set forth in Grounds 1-2 demonstrate that the Challenged Claims 1-7, 9-14, 16, 18, and 20-23 are unpatentable as obvious. Given the strength of the challenge to patentability presented in this Petition, denying this petition under § 314(a) would be unfairly prejudicial to Petitioner, and this factor weighs against discretionary denial. *See Sand Revolution II*, No. IPR2019-01393, Paper 24 at 13; *Apple*, No. IPR2020-00204, Paper 11 at 17-19.

As such, this Petition should not be denied on discretionary factors.

IX. CONCLUSION

For the reasons set forth above, Petitioner has established a reasonable likelihood of prevailing with respect to all Challenged Claims of the ’724 Patent and requests the Board institute IPR and then cancel all the Challenged Claims as unpatentable.

Dated: May 30, 2023

Respectfully submitted,

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CERTIFICATION UNDER 37 C.F.R. §42.24

Pursuant to 37 C.F.R. § 42.24, the undersigned certifies that the foregoing Petition for *Inter Partes* Review contains 13,366 words excluding a table of contents, a table of authorities, Mandatory Notices under § 42.8, a certificate of service or word count, or appendix of exhibits or claim listing. Petitioner has relied on the word count feature of the word processing system used to create this paper in making this certification.

Dated: May 30, 2023

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CERTIFICATE OF SERVICE

The undersigned certifies pursuant to 37 C.F.R. § 42.6(e) and § 42.105 that on May 30, 2023, a true and correct copy of the **PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 10,255,724**, including exhibits were served via express mail on the Patent Owner at the following correspondence address of record:

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