

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY INTERACTIVE ENTERTAINMENT, LLC,
Petitioner,

v.

QUANTUM IMAGING, LLC,
Patent Owner.

Case IPR2023-00954
Patent 8,458,028

DECLARATION OF DR. NENAD MEDVIDOVIĆ

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I, Nenad Medvidović, of Los Angeles, California declare that:

I. ASSIGNMENT

1. I have been retained by counsel for Quantum Imaging, LLC (“Quantum” or “Patent Owner”). I understand that the Patent Trial and Appeal Board (“PTAB” or “Board”) has instituted an *inter partes* review (“IPR”) of Patent Owner’s U.S. Patent No. 8,458,028 (the “’028 patent”) based on a petition filed by Sony Interactive Entertainment, LLC (“SIE” or “Petitioner”).

2. I have been asked to opine on the subject of the obviousness of claims 1, 3–9 in light of the grounds at issue in this *inter partes* review. I understand that a claim is invalid if it is obvious.

3. I have been informed that to prevail, an obviousness challenge based on a single prior art reference in the view of a knowledge of a POSITA, the reference must teach or suggest to a POSITA the subject matter of each and every limitation of the challenged claims. I was informed that to perform a proper obviousness analysis, I should adhere to the following four steps: (1) determining the scope and meaning of the challenged claims (and their limitations) from a POSITA’s perspective, (2) determining the scope, content, and meaning of the single prior art reference asserted, (3) identifying any differences in scope, content, and meaning between the challenged claims and the prior art reference asserted, and (4)

determining whether the knowledge of s POSITA can resolve the differences to arrive at the claimed invention. I apply this standard to Grounds 1 and 2.

4. I have been informed that to prevail an obviousness challenge based on a combination of multiple prior art references in the view of a knowledge of a POSITA requires that (1) the correct scope and content of the challenged claims to be determined from a POSITA's perspective; (2) the prior art references teach or suggest each limitation of the claims; (3) there exists an apparent reason to combine and/or modify the prior art as proposed; and (4) a person of ordinary skill would have a reasonable expectation of success that the proposed combination and/or modification of the prior art would operate for its intended purpose. I apply this standard to Ground 3.

Ground	Reference(s)	Basis (35 U.S.C.)	Claims Being Reviewed
1	US Pat. No. 5,933,811 ("Angles") in view of the knowledge of a POSITA	§ 103 anticipation	1, 3–9
2	U.S. Patent No. 7,168,051 ("Robinson") in view of the knowledge of a POSITA	§ 103 anticipation	1, 3–9
3	Angles, Robinson, and U.S. Patent No.	§ 103 anticipation	6

	5,949,876 (“Ginter”) in view of the knowledge of a POSITA		
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5. In forming my opinions as set forth in this declaration, I have relied upon my education, research, training, and experience in the area of computer science, computer engineering, including distributed (e.g., client-server, peer-to-peer, microservice-based, web-based, etc.) systems, GUI-intensive systems, and video game architectures. I have also relied on my review and analysis of the alleged prior art and information provided to me in connection with this case.

6. I am being compensated for my work as an expert with respect to this *inter partes* review, but my compensation is not contingent in any way on the content of my opinions or the outcome of this proceeding.

II. QUALIFICATIONS

7. My curriculum vitae (“CV”) is attached hereto as Ex. 2006 and provides an accurate identification of my background and experience.

8. I received a Bachelor of Science degree, *summa cum laude*, from Arizona State University’s Computer Science and Engineering department.

9. I received a Master of Science degree from the University of California at Irvine’s Information and Computer Science department.

10. I received a Doctor of Philosophy degree from the University of California at Irvine's Information and Computer Science department. My dissertation was entitled "Architecture-Based Specification-Time Software Evolution."

11. For nearly thirty years, my research has focused on the building blocks of software systems: software components (computational and data elements) and connectors (interaction-facilitating elements), and mechanisms for their implementation. In particular, I have focused on middleware facilities and software frameworks. In my Ph.D. dissertation—whose first research results were published in 1995 while the dissertation was completed in 1999—yielded a new design style for the development and evolution of highly distributed software systems built out of independent components that exchange different types of information encoded in messages in order to accomplish specific goals. This research focused on the design principles behind those systems, the appropriate support for modeling the systems (both at the level of individual agents as well as their integrations into subsystems and entire systems), and the infrastructure for their implementation, deployment, and optimization. This work was applied across a wide range of domains, from traditional distributed systems to mobile devices and autonomous robots.

12. I am employed by the University of Southern California (“USC”) as a faculty member in the Computer Science Department and have been since January 1999. I am a tenured professor. Since July 2022, I have served as my Department’s Chair. Between January 2009 and January 2013, I served as the Director of USC’s Center for Systems and Software Engineering. Between July 2011 and July 2015, I served as my Department’s Associate Chair for Ph.D. Affairs. Between July 2021 and June 2022, I served as my Department’s Vice Chair for Tenure Affairs.

13. I teach graduate and undergraduate courses in software architecture, software engineering, and embedded systems. and I advise Ph.D. students. I have graduated nineteen Ph.D. students and advise seven students currently pursuing a Ph.D.

14. I served as Program Co-Chair for the flagship conference in my field—International Conference on Software Engineering (“ICSE”)—held in May 2011. I have served as Chair or Co-Chair for various other conferences in the Software Engineering field, including: the Fifth Working Institute of Electrical and Electronics Engineers (“IEEE”)/IFIP Conference on Software Architecture, the Third IEEE International Conference on Self-Adaptive and Self-Organizing Systems, the Fifteenth International Association for Computing Machinery’s (“ACM”) Special Interest Group on Software Engineering (“SIGSOFT”)

Symposium on Component Based Software Engineering, the IEEE/CSSE/ISE Workshop on Software Architecture Challenges for the 21st Century, and the Doctoral Symposia at the Sixteenth ACM SIGSOFT International Symposium on the Foundations of Software Engineering and at the 44th International Conference on Software Engineering.

15. I serve or have served as an editor of several peer-reviewed journals, including “IEEE Transactions on Software Engineering,” “ACM Transactions on Software Engineering and Methodology,” “Journal of Software Engineering for Robotics,” “Elsevier Information and Software Technology Journal,” “Journal of Systems and Software,” “Journal of Software Engineering Research and Development,” and “Springer Computing Journal.” Additionally, I have served as a guest editor of several special issues for other journals. Since January 2018, I have served as Editor-in-Chief of “IEEE Transactions on Software Engineering.”

16. Between September 2013 and September 2015, I served as Chair of the ICSE Steering Committee. Both prior to that (2008-2013) and subsequent to that (2015-present) I have been a member of the ICSE Steering committee. I am currently a member of the Steering Committee of the joint European Conference on Software Engineering and the Symposium on the Foundations of Software Engineering (“ESEC/FSE”). From July 2015 to September 2017, I chaired the Steering

Committee of FSE, while it was a standalone symposium. I previously served as a member of the Steering Committees of the Working IEEE/IFIP Conference on Software Architecture.

17. Between July 2015 and June 2018, I served as Chair of the ACM SIGSOFT, the largest professional organization in my field. During the past year, I have chaired the committee in charge of ACM's Software System Award, one of the most important technical awards given in my field.

18. I co-authored *Software Architecture: Foundations, Theory, and Practice*, a widely used textbook in the field of software systems architecture.

19. I have served as editor of various books in the Software Engineering field, including *Proceedings of the 3rd International Conference on Self-Adaptive and Self-Organizing Systems*, *Proceedings of the Warm-Up Workshop for the 32nd International Conference on Software Engineering*, *Proceedings of the 5th Working IEEE/IFIP Conference on Software Architecture*, and *40 Editions of ICSE—the Ruby Anniversary Celebration*.”

20. I have authored or co-authored nearly 300 papers in the Software Engineering field. My most cited paper has been cited well over 3,000 times. A paper I co-authored in the 1998 International Conference on Software Engineering, my field's flagship conference, was given ten years later, in 2008, that conference's

Most Influential Paper Award. Another of my publications received a Most Influential Paper Award in 2020. Several of my other publications have received “best paper” or “most cited” awards.”

21. Several of my publications have focused on different aspects of computer security. A paper describing a security-vulnerability detection tool for Android devices, built in my lab, won the Best Tool Paper award at the 2017 Automated Software Engineering Conference.

22. I have co-invented three patents in the area of distributed systems design, implementation, deployment, and security.

23. I have been named a Distinguished Scientist of the ACM. I have been elected a Fellow of the IEEE. Fellow of the IEEE is IEEE’s highest grade; less than 0.1% of its membership earns this grade each year.

24. Although I am more qualified than a person having ordinary skill in the art, I have experience in the level of understanding of such a person, as I have worked with students and colleagues who fit the description of a person having ordinary skill in the art for over twenty years. I agree that such persons would have a bachelor’s 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; and have at least a general knowledge of 3D rendering and virtual reality. Mr. Crane also includes “at least a general knowledge of online and in-game advertising methods prevalent in the field” in his definition of the qualifications of a POSITA, which I believe is inapplicable to a POSITA with respect to this patent, even though it may apply to other patents in dispute. Ex. 1004, p. 14, ¶43.

III. MATERIALS CONSIDERED

25. The materials I considered include the '028 Patent (Ex. 1001), the '028 patent's file history (Ex. 1003), the Petition for inter partes review (Paper 2), the David Crane Declaration in support of the Petition (Ex. 1004), the Angles reference (Ex. 1007), the Robinson reference (Ex. 1008), the Ginter reference (Ex. 1009), the Robinson Reference's file history (Ex. 2012), Patent Owners' Preliminary Response (Paper 9), the Patent Trial and Appeal Board (“PTAB”) decision to institute inter partes review (Paper 11), the district court claim construction order (Ex. 2011), and the transcript of the deposition of Mr. David Crane (Exs. 2009-2010). I also considered the following materials that I refer to and that I cite in this declaration: Microsoft Computer Dictionary, copyright 2002, 5th edition (Ex. 2007), and The IEEE Standard Dictionary of Electrical and Electronics Terms, 6th edition, 1996 (Ex. 2008).

26. In addition, I have drawn on my experience and knowledge, as discussed above and described more fully in my CV, in the areas of software engineering, computer science, networking, network-based systems and applications, such as client-server and web-based systems, in the specific context of console and gaming, as well as GUI-based development, including 3D rendering.

IV. SUMMARY OF U.S. PATENT NO. 8,458,028

27. The ‘028 Patent is a U.S. Patent titled “System and method for integrating business-related content into an electronic game.” Ex. 1001, p. 1.

28. The ‘028 Patent discloses “a method of seamlessly integrating business-related content into the subject matter of an electronic game.” *Id.*, 1:36-37.

29. It is my understanding from counsel that the important date for determining prior art for the purposes of this IPR is the filing date of the parent patent application of the ‘028 patent. I understand from counsel and from the face of the ‘028 patent that this date is October 16, 2002. Ex. 1001, p. 1.

a. The ‘028 Patent’s Scope and Content from a POSITA’s Perspective

i. A POSITA’s understanding of “a primary electronic device” of Claim 1 and “a locally executed game application that is accessible at said primary electronic device” of Claim 1

30. In my opinion, understanding the proper scope and content of the ‘028 Patent requires understanding the use of two terms in context of a game application:

(1) “locally executed”, and (2) “accessible.” It is my opinion that only after the meaning of these terms are properly understood, a POSITA can understand the scope of the claims.

31. A POSITA reading the ‘028 Patent would understand that executing a game application means running a game program. Thus, I agree with Mr. Crane’s statement. *See* Ex. 2009, 220:15-18 (“Executing a game is running the game program.”).

32. A POSITA reading the ‘028 Patent would also understand that a locally executed game application is a game application that is “executed on a local device.” Ex. 1001, 1:38. The local device is a device that is used by a user. A game application is not executed locally if it is executed “via a network connection to a remote server.” *Id.*, 1:39. Thus, I agree with Mr. Crane’s statement that “[a] locally executed game application is a game application that is running on your computer,” that is, “[t]he computer you are sitting at locally.” Ex. 2009, 276:13-21.

33. A POSITA reading the ‘028 Patent would recognize that a game is accessible at a device if it is held by the device. The ‘028 specification repeatedly and consistently refers to a device “holding a game application.” *See, e.g.*, Ex. 1001, 1:64-66; 2:6-7; 2:18-19; 2:21-23; 2:33-34; 3:37-38; 6:52-54.

34. Examining the prosecution history of the ‘208 Patent corroborated this understanding. The claims of the ‘028 Patent was at some point (on July 26, 2004) amended to recite a “game application held at said primary electronic device.” Ex. 1003, p. 658 (added language is underlined). During the prosecution, the applicant again (on August 16, 2006) amended the claim language to delete “held” and replace it with “that is accessible,” that is, a “game application ~~held~~that is accessible at said primary electronic device.” Ex. 1003, p. 503. It is important to note that this amendment was not proposed in response to overcome a rejection or distinguish over a prior art reference. Furthermore, Additionally, the applicant has never made any statement implying a disclaimer of the interpretation that “being accessible at” does not encompass “being held at.” Furthermore, the examiner never raised any objections to this amendment as exceeding the scope of the application as originally filed. The prosecution history clearly indicates that both the applicant and the examiner regarded these terms as synonymous.

35. Therefore, I disagree with Mr. Crane that the term accessible at is the “same thing” as locally executed in the context of a game application. Ex. 2009, 215:23-216:14. While he concedes that an application becomes accessible at a primary electronic device when it is “downloaded into” the device, (Ex. 2009, 343:7-12; *see also id.* 344:20-23), which means when it is held on the memory of the

device, he still struggles to distinguish between “locally executed” and “accessible at.” *See* Ex. 2010, 340:6-10 (“Again, locally executed would be executed locally on a user’s computer. And the fact that the user has access to that program would mean it’s accessible to him.”).

36. In fact, a game application can be locally executed by a user but not accessible at the user device. An online game is an example of such a game. The game application is held by a remote server, but the user can execute it locally on the user’s device.

37. A game may be accessible on a user’s device without being locally executed on that device. For instance, if the user device functions as a server housing the game application but lacks input (or output) devices such as a mouse and keyboard (or screen) for the user to execute the game application directly on the device, then the game is not locally executed on that device.

38. A game may be neither locally executed not accessible at a user’s device. This happens in the context of remote play where the user uses a secondary device to connect to a primary device holding the game application and the game application is executed on the primary device. In this case, the secondary device merely functions as a controller on which the game play is being streamed.

39. A game may be both locally executed and accessible at an electronic device. This is when the user plays a game application that is held by the user's device on the user's device.

40. The following fourfold contingency table summarizes the foregoing discussion in Paragraphs 30-39 from the perspective of a user playing the game. The examples in this table are not meant to be exhaustive.

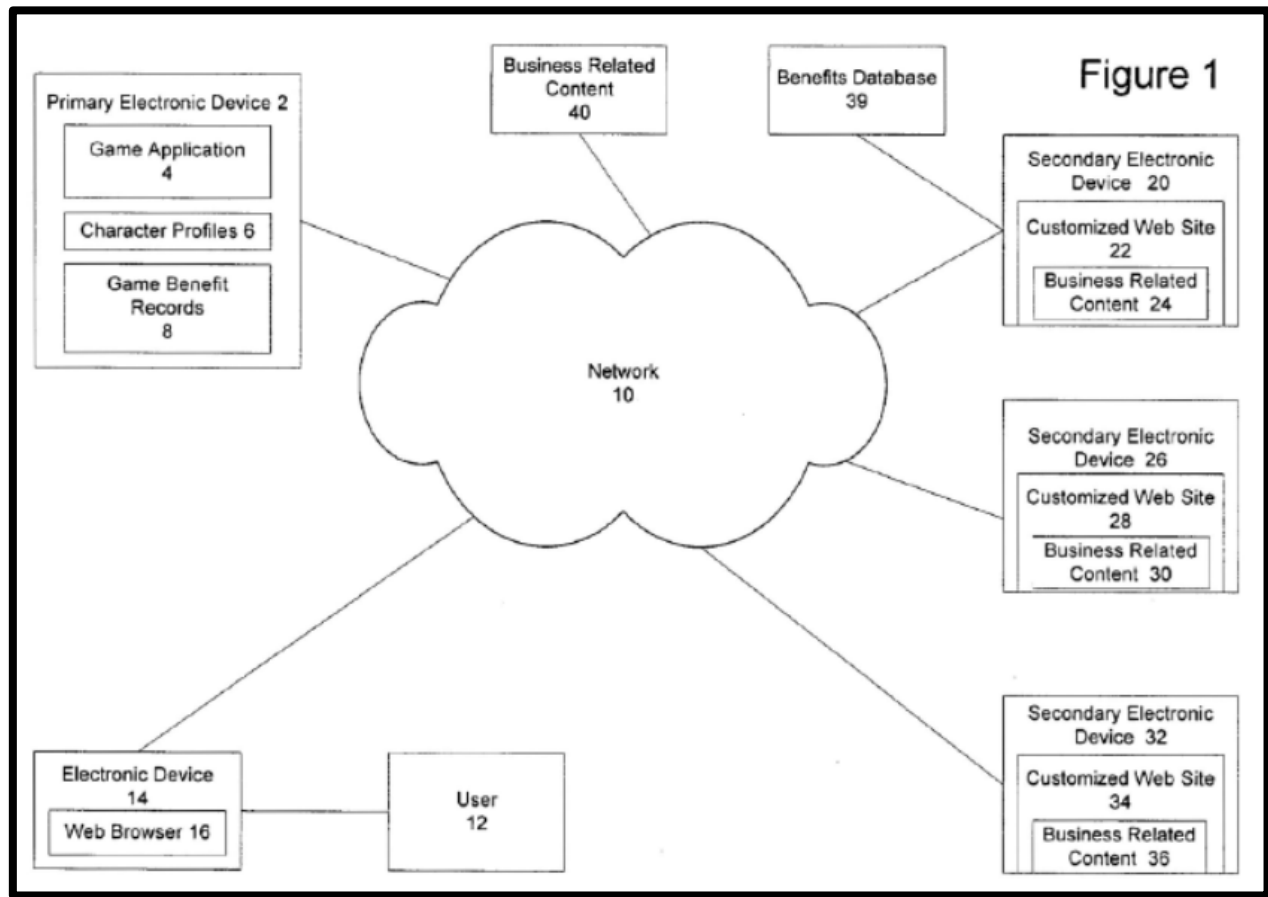
	Accessible At	Not Accessible At
Locally Executed	Play a game on a user's device by inserting a CD-ROM containing the game application	Online Games
Not Locally Executed	Game housed on the server device with no need for relying on input/output device	Remote Play

With this introduction in mind, I now proceed with discussing the '028 embodiments. I note that since the Petition, Mr. Crane's declaration, and the Board's Institution Decision appear to focus on FIGs. 1 and 2 embodiments of the '028 Patent, I accordingly limit my analysis to these two embodiments.

41. A POSITA reading the '028 Patent would recognize that the method disclosed therein requires "a primary electronic device holding a game application."

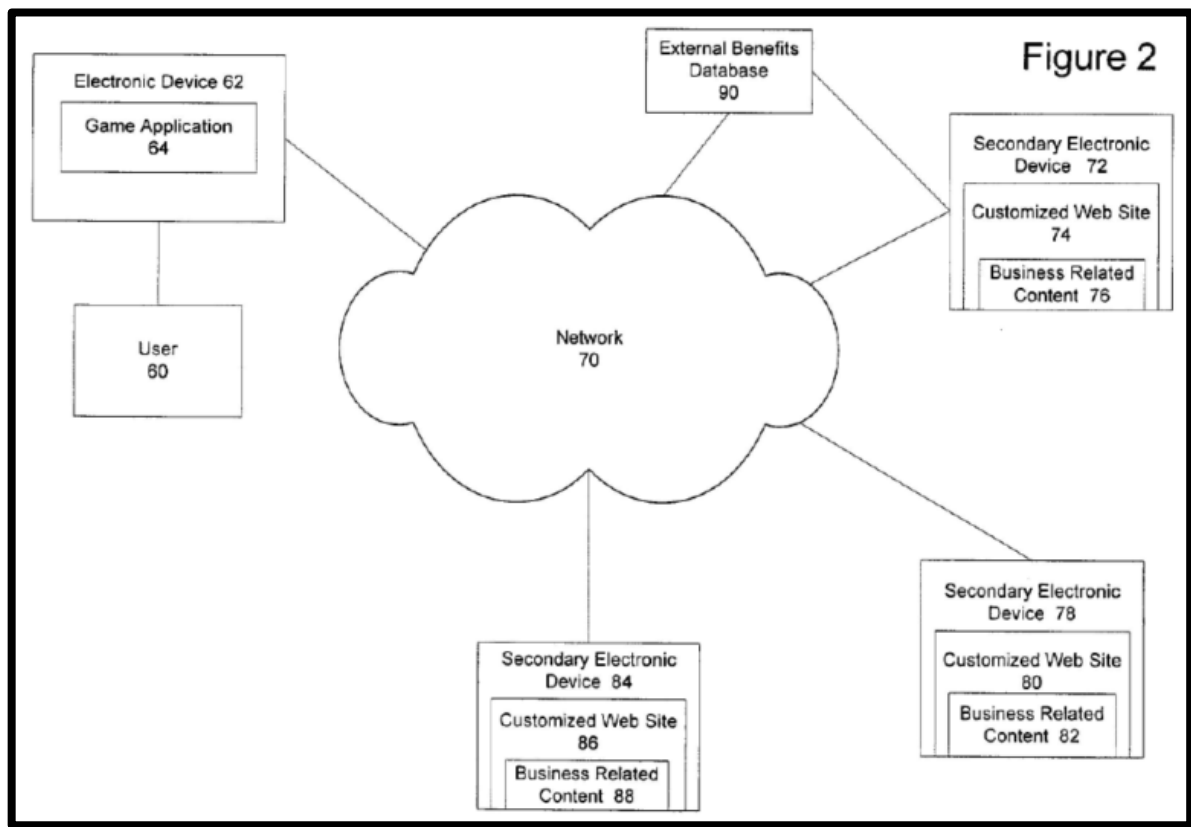
Ex. 1001, 1:65. As illustrated in the fourfold contingency table above, this “primary electronic device” can be either a server device or a user’s device.

42. FIG. 1 of the '028 Patent, reproduced below, depicts an embodiment where the game application 4 is held at the primary electronic device 2. In this embodiment, the user’s device is the electronic device 14. The user’s device is “holding a web browser 16.” Ex. 1001, 3:36-52. Describing this embodiment, the specification discloses that “[i]n the network environment where the user is accessing the game application through a local web browser with the game application being stored on a remote site on the network, the user may receive two-dimensional data through the web browser.” Ex. 1001, 6:43-48. Therefore, a POSITA would appreciate that the FIG. 1 embodiment depicts a locally executed game application that is not accessible at the user’s device. Referring back to fourfold contingency table above, FIG. 1 illustrates the network structure for an online game.



43. Another embodiment of the ‘028 Patent is shown in FIG. 2 below. This embodiment is where “[a] user 60 accesses the game application 64 on a local electronic device 62.” Ex. 1001, 4:3-24. In this embodiment the primary electronic device that holds the game application is in fact the user’s local device, and the user accesses the game directly at the local device without the use of a network connection or a browser, as opposed to the embodiment discussed in FIG. 1. *See id.* Therefore, a POSITA reading the ‘028 Patent would recognize that this embodiment corresponds to a situation where a user plays a game on a user’s device by inserting

a CD-ROM containing the game application or by executing a game application stored on the memory of the user's device. To put in different form, a POSITA would recognize that the FIG. 1 embodiment illustrates a locally executed game application that is accessible at the primary electronic device—with the primary electronic device is being the user's electronic device 62.



b. Claim 1

44. As explained in greater detail below, it is my opinion that a POSITA would correlate Claim 1 with the embodiment of FIG. 2. In other words, a POSITA

would readily recognize that the primary electronic device disclosed in Claim 1 is the user's local device—and not a remote server holding the game application.

45. Claim 1's preamble explains that business-related content is integrated into "a primary electronic device that accesses a game application." Given the overarching purpose of the '028 Patent which is "to convey to the player," (Ex. 1001, 1:31), the business-related content, a POSITA would understand that the business-related content must be integrated into the user's device during "the execution of a game application" at the user's device. Thus, a POSITA would understand that the primary electronic device disclosed in Claim 1 is in fact the user's device, and not a server.

46. Furthermore, limitation 1[a]¹ requires that "said primary electronic device" receives a request from the user to initiate "a locally executed game application that is accessible at said primary electronic device." And limitation 1[b] requires that the game application be initiated "at said primary electronic device." When read together, these limitations make it clear that the game application must be initiated at the same device where the request to initiate the game application is received. Since a "locally executed" game application is initiated and played on the

¹ I adopt Petitioner's indicators for the limitations.

user's device as opposed to a server, a POSITA would understand that the primary electronic device disclosed in Claim 1 is in fact the user's device.

47. Moreover, limitation 1[d] specifies that the user must be automatically re-directed “from the primary electronic device” to one of the web pages of the secondary electronic device. This unequivocally indicates that the primary electronic device is indeed the user's device, as the user, while playing a locally executed game on their own device, is re-directed from their device to external web pages. The re-direction does not occur from the server but from the user's own device. Thus, a POSITA would understand that the primary electronic device must necessarily be the user's device.

48. Petitioner's expert Mr. Crane likewise agrees with this analysis. In paragraphs 76, 82, 89, and 106 of his declaration, he repeatedly held that a consumer computer—not a server—is a primary electronic device of Claim 1. Ex. 1004, ¶¶76, 82, 89, 106.

49. Therefore, and in light of my analysis in Paragraphs 33-48, it is clear that a POSITA would understand that Claim 1 (and all the dependent claims depending from it) of the '028 Patent reads on FIG. 2 embodiment, where the primary electronic device is the user's device. Accordingly, referring back to the fourfold contingency table above a POSITA would understand that a disclosure that teaches online games

does not teach or suggest “a locally executed game application that is accessible at said primary electronic device” of Claim 1.

- ii. *A POSITA’s understanding of “automatically integrating business-related content ... into said locally executed game application during execution of said game application” of Claim 1*

50. The express language of this limitation communicates to a POSITA that integration of business-related content into the locally executed game application must occur both “automatically” and “during execution of said game application.”

51. Starting with “automatically,” I understand from the parallel district court claim construction order that the term automatically must be given its “plain and ordinary meaning.” Ex. 2011. I agree with Mr. Crane that “the term automatically meaning the opposite of manually.” Ex. 2009, 231:10-13. I also agree with Mr. Crane that a process that is actuated by a user clicking on a mouse cannot be described as automatic. See Ex. 2009, 232:7-21 (“If I want more information, I can certainly manually click on that advertisement and go somewhere else”).

52. A process occurs automatically if “under specified conditions” it occurs without manual intervention by a human operator. Ex. 2008 at 58 (definition of “automatic”). Consider a scenario where a game application comprises multiple levels, and a player unlocks the next level automatically upon completing the current one. In this case, the specific condition triggering the automatic unlocking is the

player's completion of the current game level. Now, contrast this with a different scenario: a user reading an article that contains a hyperlink at the end. Clicking on this hyperlink would redirect the user to another webpage. However, upon finishing reading the article, the user is not automatically redirected to the linked webpage. Instead, the user must manually click on the hyperlink for the redirection to take place. Thus, this process does not occur automatically.

53. With regard to the “during execution of said game application” requirement, a POSITA reading the ‘028 Patent would recognize that the integration of business-related content must necessarily occur while the game application is running at the user’s device. The specification makes it very clear that initiating the game application comes before integration of business-related content into the game application: “The primary electronic device receives a request from a user to initiate the game application. **The game application is initiated and integrates business-related content into the game application** during the execution of the game application.” Ex. 1001, 1:67-2:4. Accordingly, the integration cannot occur before the user locally executing the game application.

- iii. *A POSITA’s understanding of “automatically re-directing said user to one of said web pages of said secondary electronic device ..., said re-direction being integrated into said game application and said re-direction occurring as*

part of the user executing said game application” of Claim 1

54. The express language of this limitation communicates to a POSITA that re-direction of the user to one of the web pages of the secondary electronic device must be “integrated into said game application” and should occur both “automatically” and “as part of executing said game application.”

55. I hereby incorporate my analysis in Paragraphs 51-52 regarding “automatically.”

56. With regard to “said re-direction being integrated into said game application,” a POSITA would readily understand that it is the game application that re-directs the user to one of said web pages of said secondary electronic device—that is, the act of re-direction is built in the game play. The ‘028 specification confirms this understanding

The game requires the user to perform certain tasks specified in the game. In the course of conducting the tasks, the user is transparently re-directed to a corporate sponsor’s customized web site to **finish the completion of a task**. While at the sponsors corporate web site, the game player is exposed to additional business-related content which relates to the game the user is playing. All of the business-related content displays occur within the context of the player playing the game. The player has the opportunity to temporarily leave the game and acting upon the business-related content to which he or she has been

exposed in order to conduct real-life business at the corporate web site. Following completion of the task at the customized corporate web site, the player is transparently re-directed back to the original game site.

Ex. 1:42-56.

57. A POSITA reading this excerpt would understand that the re-direction is integrated into the game application and is prompted by the game application in order for the user to successfully “finish ... a task,” (*Id.*)—completion of which is required by the game application. Furthermore, a POSITA would understand that outcomes of user’s actions while on the webpages of the secondary electronic device is not completely divorced from the game: “The game provides the opportunity for the player to earn extra benefits as a result of the game actions. Some of the benefits are for internal use within the game” *Id.*, 1:56-59.

58. With regard to “said re-direction occurring as part of the user executing said game application,” the ‘028 specification in clear that the redirection “occurs as part of the user executing and playing the game application.” Ex. 1001, 2:12-14. Given that “executing a game” application means “running the game” application on the user’s local device (see Paragraph 31), for “said re-direction” to occur “as part of the user executing said game application” necessarily requires that the software code responsible for “said re-direction” be a part of the software code for the game application being run on the user’s device.

iv. A POSITA's understanding of "game application displays branded business-related content" of Claim 3

59. A POSITA reading the preamble of Claim 3 would understand that this Claim depends from Claim 1.

60. The express language of this limitation communicates to a POSITA that the game application must display branded business-related content.

61. A POSITA would appreciate that "a game application display[ing] branded business-related content" must necessarily mean differently than "integrating business-related content ... into the game application." Otherwise, this Claim would be redundant in light of Claim 1's limitation of "integrating business-related content ... into the game application."

62. Therefore, a POSITA would recognize that this Claim imposes a limitation on the game application disclosed in Claim 1—the game application by and of itself must display "branded business-related content." This is a feature of the game application alone—not merely a network capability allowing for integration of business-related content into the game.

v. A POSITA's understanding of "said branded business-related content is dynamically updated" of Claim 4

63. A POSITA reading the preamble of Claim 4 would understand that this Claim depends from Claim 3.

64. A POSITA would readily recognize that “said branded business-related content” refers back to the “branded business-related content” disclosed for the first time in Claim 3.

65. Therefore, a POSITA would understand that what is “being dynamically updated” is the branded business-related content displayed by the game—not the business-related content integrated into the game per limitation 1[c] of Claim 1. Accordingly, since displaying branded business-related content is an inherent feature of the game (as opposed to the integration of business-related content into the game, which is a network capability), (see Paragraphs 59-62), the game application itself must dynamically update the branded business-related content that it displays. Accordingly, a POSITA would understand that the branded business-related content is not dynamically updated within the meaning of the ‘028 Patent if a new branded business-relates content in integrated into the game application from websites external to the game application.

66. I note that the ‘028 Patent specification defines branded business-related content as “business-related content which uniquely identifies the goods and services of a particular company.” Ex. 1001, 1:40-42. Therefore, and in view of this

definition, a POSITA would recognize that the very same branded business-related content displayed by the game application is being updated. This is necessarily different from the game application displaying a new branded business-related content to the user.

67. The illustration below created by me from images found in public domain illustrates an example where the branded business-related content is dynamically updated within the meaning of the '028 Patent. Suppose a game application displays a front-side-view image of Honda Civic vehicle at $t = t_i$ to the user (left image). Now suppose at $t = t_j$ the game application displays a rear-side-view image of the same vehicle. In this case, a POSITA reading the '028 Patent would conclude that the displayed branded business-related content is dynamically updated.



68. The illustration below created by me from images found in public domain illustrates an example where the branded business-related content is not dynamically updated within the meaning of the '028 Patent. Suppose a game application displays

a front-side-view image of a Honda Civic vehicle at $t = t_i$ to the user (left image). Now suppose at $t = t_j$ the game application displays a front-side-view image of a Tesla Model Y vehicle. In this case, a POSITA reading the '028 Patent would conclude that the displayed branded business-related content is not dynamically updated. The game application displays new branded business-related content to the user.



69. Finally, I disagree with Mr. Crane's broad assessment that "dynamically updated" is as simple as "it changes over time." Ex. 2009, 252:9-11. In the '028 patent, for example, there are POSITA-known methods to generate dynamic content (examples mentioned above) "which is constantly being updated through the use of scripts, Java applets, ActiveX objects, or other similar mechanisms." Ex. 1001, 5:26-29. This is different than "changes over time," which inappropriately broadens the definition. A POSITA would recognize that the '028 Patent teaches dynamically updating as doing so in a manner similar to the methods enumerated in the specification.

vi. *A POSITA's understanding of "executing game-related user actions in said game application as a result of user choices" of Claim 5*

70. A POSITA reading the preamble of Claim 5 would understand that this Claim depends from Claim 1.

71. The express language of this limitation communicates to a POSITA that user action in said game application must be "game-related."

72. In fact, each and every instance of "user action" in the '028 Patent associates the user action in relation to "the game." Examples include "[u]ser actions within the game" and "[g]ame-related user actions," (Ex. 1001, Abstract), "[u]ser actions within the game" and "[g]ame-related user actions," (*Id.*, 3:7-10), and "user actions within the context of the game," (*Id.*, 5:43-44). The '028 specification discloses two categories of user actions—both are game-related: "Game actions undertaken by the user 12 while at the customized web sites or at the primary electronic device 2 may cause the generation of player benefits." *Id.*, 3:56-59.

73. Furthermore, a POSITA would readily recognize that game-related user actions are in fact outward manifestations of user choices being executed in the game.

74. Furthermore, a POSITA would understand that this limitation is distinct from and covers a different scope than limitation 1[e]. Any user action (game-related

or not) executed on business-related content is covered by limitation 1[e], and thus this limitation only addresses game-related user actions that are not executed on the business-related content of Claim 1. Otherwise, this limitation would render redundant limitation 1[e].

vii. *A POSITA's understanding of "generating a player profile based on said user choices made during said game application" of Claim 5*

75. A POSITA would readily recognize that "said user choices" refers back to the "user choices" disclosed for the first time in limitation 5[a], whose outward manifestations are "game-related user actions" executed in the game.

76. The express language of this limitation communicates to a POSITA that a "player profile" is generated for the user—as opposed to a user profile. A POSITA would appreciate that a player profile does not identify the user to third parties, nor does it reveal any "identifying demographic data" about the user to third parties. See Ex. 1001, 5:59-61 (providing that character profiles "may include non-identifying demographic data" that can be "exchanged with business sponsors"). As the '028 specification make it abundantly clear, a player profile is "tied to a character representing the player, not the actual individual playing the game." Ex. 1001, 5:62-64.

77. Furthermore, the express language of the limitation requires that the player profile is generated “based on said user choices made during said game application.” A POSITA reading the ‘028 Patent would readily recognize that a player profile is generated based on the game choices, as evidenced by the specification: “Character profiles 6 are records which track the game choices a player makes while playing the game application 4.” Ex. 1001, 3:39-41. The ‘028 Patent specification further states that “a character profile which tracks the player’s decisions during the course of the game.” Ex. 1001, 5:57-59.

viii. *A POSITA’s understanding of “said player profile is disseminated to providers of business-related content used in said game application” of Claim 6*

78. A POSITA reading the preamble of Claim 6 would understand that this Claim depends from Claim 5.

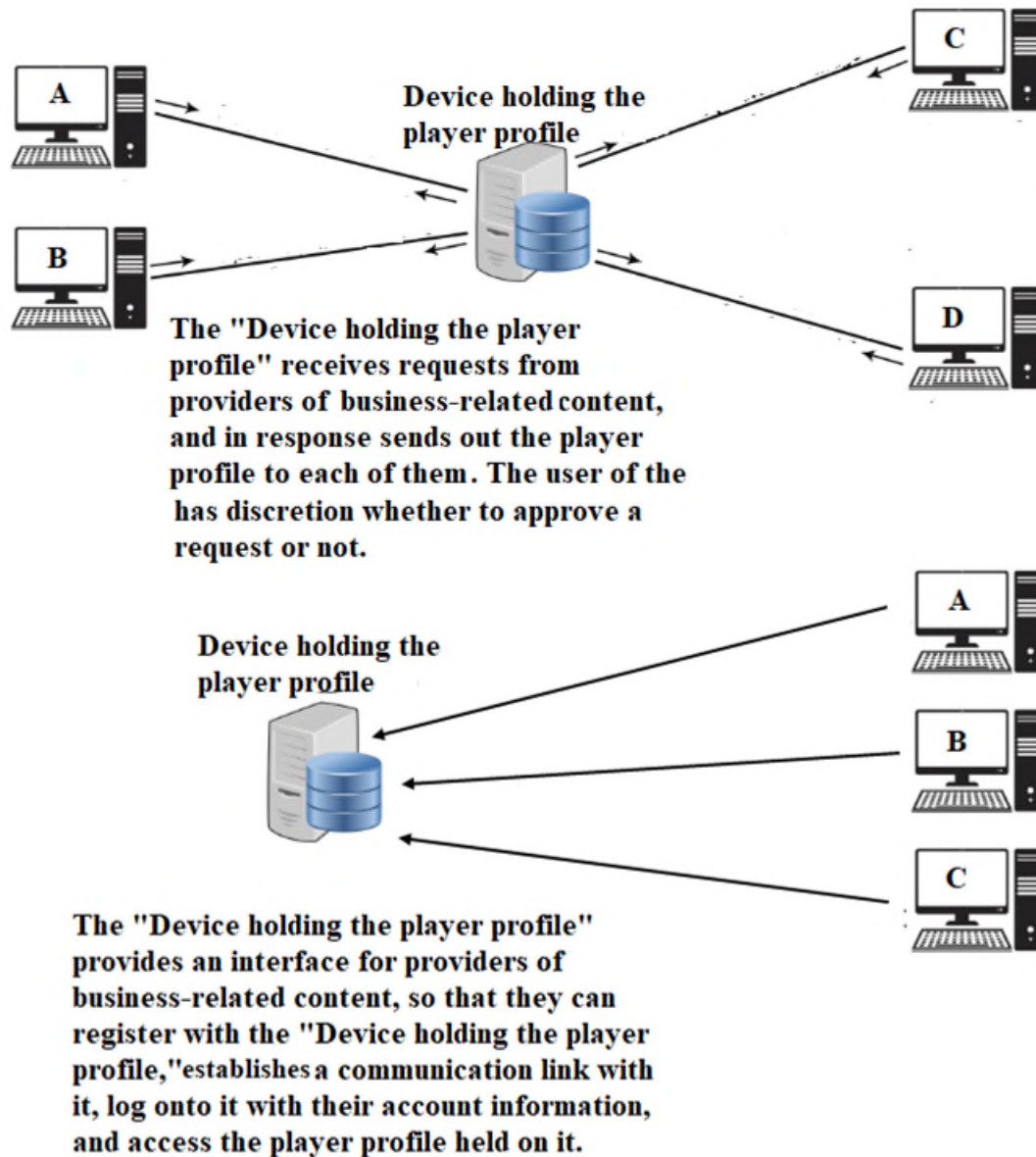
79. A POSITA would readily recognize that “said player profile” refers back to the “player profile” disclosed for the first time in Claim 5.

80. The express language of this limitation communicates to a POSITA that a “said player profile” must be “disseminated” to providers of business-related content used in said game application. The ‘028 Patent specification also makes it clear that this player profile “may be exchanged with the business sponsors so that

they can tailor content or product offerings in a manner appealing to the game participants.” Ex. 1001, 5:59-62.

81. Furthermore, a POSITA reading the ‘028 Patent would recognize that since the player profile is disseminated to the providers of the business-related content, it cannot be located at a device belonging to those providers. In fact, the ‘028 Patent specification makes it clear that the same device that holds the game application also holds the player profile. *See* Ex. 1001, 3:37-38. As discussed in Paragraphs 33-49, since a POSITA would understand that in Claim 1 the game application is held at the user’s device, a POSITA would also understand that the player profile is also held at the user’s device.

82. Furthermore, a POSITA reading the ‘028 Patent would understand that by reciting the term “disseminated to,” the Claim requires the player profile to be sent out from the device holding them to providers of business-related content. This language teaches away from a scenario in which the device holding the player profile allows providers of business-related content to connect to the device via an interface to access the player profile. The figure below, created by me, illustrates the schematic differences between the two scenarios.



83. In the figure above, the top frame illustrates a scenario where providers of business-related content must submit a request to the device holding the player profile, and the device responds by sending out the player profile. The request submitted by providers of business-related content can be in form of a subscription

request (like a request to subscribe to a newsletter). This scenario would increase the risk of data breach and interception by fraudsters, for the player profile exits the device holding it and is sent out through the internet. However, a POSITA would understand that this scenario provides substantial advantages in cases where the player profile is held (i.e., stored) on the same device holding the game application (i.e., the user's device). This is because the user, concerned with their privacy, cannot provide an interface for providers of business-related content to connect to the user's device. Further, the user's device usually has limited capacity comparing to a server device (in terms of memory, hardware, and network traffic management), and thus it cannot possibly accommodate too many providers of business-related content accessing it. Thus, the only way that said providers can access the player profile stored on the user's device is if the user device sends it out to them. The top frame illustrates the situation claimed in Claim 6.

84. The bottom frame, on the other hand, depicts a scenario where providers of business-related content must first register with the device holding the player profile, create an account, and then use their account credentials to access the information contained in the player profile. The player profile does not leave the device, and thus the risk of interception is low. This is a situation where the device holding the player profile is a server device—as opposed to the user's device.

ix. A POSITA's understanding of Claim 7

85. A POSITA reading Claim 7 would recognize the substantial similarity between it and Claim 1. One difference between the two claims is that Claim 1 recites “game application,” whereas Claim 7 recites “plurality of applications.” However, for the reasons discussed below, a POSITA reading the ‘028 Patent would recognize that the term “application” in Claim 7 means “game application.”

86. I arrived at this conclusion after reading the specification. I observed that of the 55 instances where the word “application” was used in the specification, it was preceded with the word “game” 54 times. There is only one exception, but even with that, when read in context, it is clear that the word “application” in that one instance refers back to the “game application” in the immediately preceding sentence:

The game application 4 allows the player to access more than task-oriented games. **The application** may present the user with a platform to access music sites (run by a sponsor), chat areas, reading area, educational areas, areas specific to sponsor reward programs, shopping areas and other areas in addition to the game area.

Ex. 1001, 5:65-6:3.

87. Further, in all the five figures of the ‘028 Patent, the application that is illustrated is a game application. The title of the Patent also makes clear that it is directed at an “electronic game.” Furthermore, every time the specification describes

the invention as a whole, it does so with reference to a game application. For example:

For the sake of clarity in explaining the invention, the description herein focuses on the integration of business-related content into the game application. However, those skilled in the art will appreciate that the content being integrated into the game application may be business-related content and/or non business-related content. Examples of non-business related content include, but is not limited to, art content, historical data, geographical content, literature content, etc.

Id., 3:27-35.

88. The above-cited passage is specifically important, because it communicates to a POSITA that while the content being integrated can be both business-related and non-business-related (and the specification merely went uses business-related content for clarity's sake), the content is always integrated into the game application. **This passage does not state that the specification's focus on "game application" was also made for clarity's sake.**

89. With this introduction in mind, a POSITA would understand that limitations 7[b], [d], and [e], are nearly identical to limitations 1[b], [c], and [d], respectively. The only difference is that Claim 7 discloses a possibility of having "plurality of [game] applications." Therefore, a POSITA would assign the same

meaning and scope to these limitations as those for limitations 1[b], [c], and [d], respectively.

V. PERSON OF ORDINARY SKILL IN THE ART

90. It is my understanding that POSITA at the time of the effective filing date of the application that led to the '028 Patent is someone who would have had a bachelor degree in computer engineering, computer science, or a similar discipline, and/or two years of professional experience in the fields of networking and network-based systems or applications, such as client-server and web-based systems, in the specific context of console and gaming or an equivalent level of skill, knowledge, and experience. A POSITA would have at least a general knowledge of electronic advertising and in-game advertising.

91. I determined the level of skill of a person of ordinary skill in the art by reviewing the '028 patent and considering the type of problems encountered in the art. I was given the Petitioner's definition of a POSITA, and largely agree, with the exception of 3D rendering and virtual reality, as these do not specifically apply to the '028 Patent at issue.

92. When considering the alleged prior art, I thought about the students and colleagues I work with that have the skills of a POSITA and tried to put myself in their shoes.

VI. CLAIM INTERPRETATION

93. I understand that the terms set forth in the patent claims in an IPR are given their broadest reasonable interpretation in light of the specification as it would be interpreted by a POSITA, and that the claim terms are construed in accordance with the ordinary and customary meaning of such terms as would have been understood by one of ordinary skill in the art and in light of the prosecution history pertaining to the patent.

94. I understand from counsel that the Board determined that no express claim construction was necessary for any claim terms. PTAB Decision Granting Institution of IPR, Paper 11, p. 15.

95. I understand from counsel that in the parallel district court litigation, the district court also issued a claim construction order, a copy of which was provided to me by counsel. Ex. 2011.

VII. PETITIONER'S PROPOSED GROUNDS DO NOT SHOW THE CLAIMS OF THE '028 PATENT ARE OBVIOUS

A. Ground 1: Angles in view of knowledge of a POSITA

1. Background On Asserted Reference Angles

96. Angles is a U.S. Patent titled "System and method for delivering customized advertisements within interactive communication systems." Ex. 1007, p. 1.

97. Angles discloses “a system and method for delivering customized electronic advertisements in an interactive communication system.” *Id.*, Abstract. More specifically, “the invention is directed to delivering custom advertisements to consumers who use their computers to view information offered by different content providers existing on the Internet.” *Id.*, 2:59-62.

b. Angles’s Scope and Content from a POSITA’s Perspective

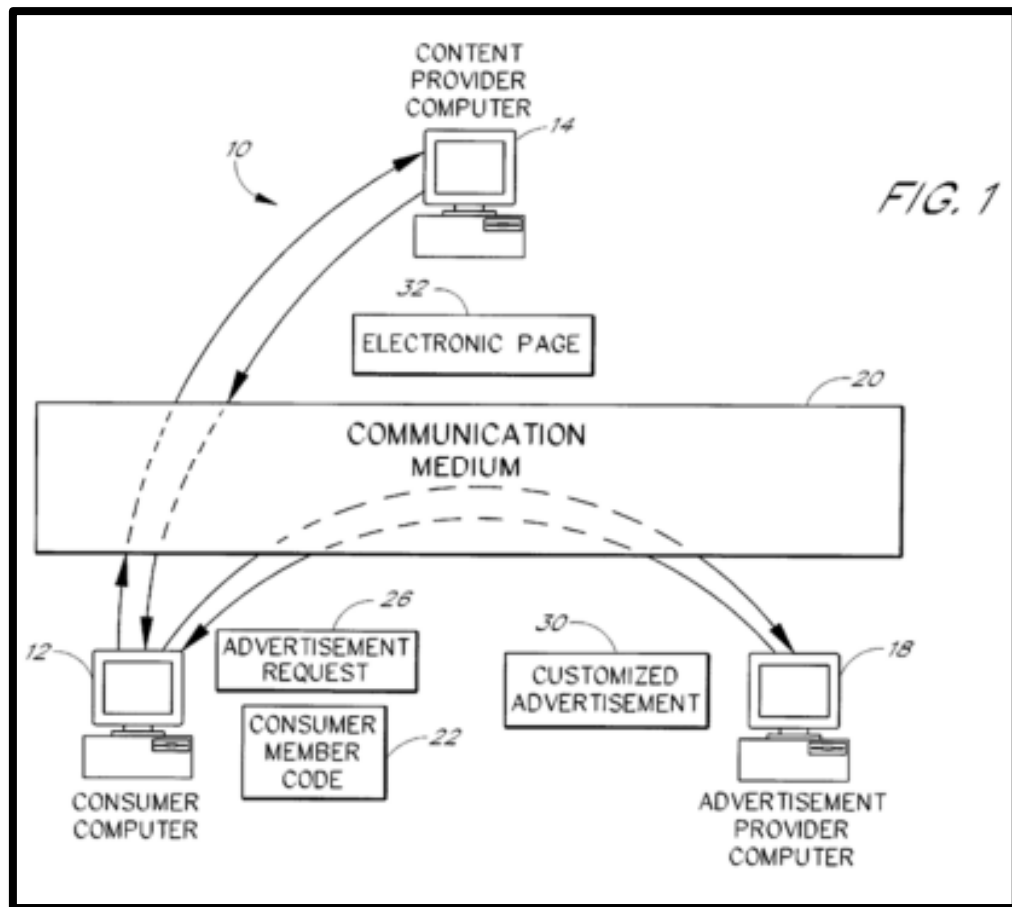
98. In every embodiment in Angles, there are three specific devices involved: a consumer computer, a content provider computer, and an advertisement provider computer. *See, e.g.*, Ex. 1007, FIGs 1 and 9. These devices are all connected via a network, typically the Internet. *See, e.g., id.*, 9:4-7 (“Focusing now on the communication medium 20 as shown in FIG. 2, the presently preferred computer medium includes the Internet 33 which is a global network of computers.”).

99. Petitioner exclusively relies on two primary embodiments within Angles, namely the ones shown in FIGs. 1 and 9. The Petition is completely devoid of any citation to portions of Angles describing embodiments shown in FIGs. 10 and 11. And, aside from two remote citations to disclosure in Angles’s column 23, lines 7-15, related to FIGs. 10 and 11, Mr. Crane’s declaration is similarly devoid of any substantive discussion of FIGs. 10 and 11. Accordingly, at this point, I limit the scope of my analysis of Angles to what is specifically relied upon in the Petition.

i. *A POSITA's understanding of Angles's FIG. 1 embodiment*

100. Angles refers to its FIG. 1 embodiment as the “preferred embodiment.”

Id., 4:49-53. Angles's preferred embodiment is reproduced below.



101. In Angles's preferred embodiment, the consumer computer 12 establishes a communication link with the content provider computer 14 via a communication medium 20. After the communication link is established, the content provider computer 14 sends an electronic page 32 to the consumer computer 12,

which includes an embedded advertisement request 26. *See* Ex. 1007, 7:53-60. Upon receiving the electronic page 32, the consumer computer 12 executes the embedded advertisement request 26. *See* Ex. 1007, 7:59-62.

102. Upon the consumer computer 12 executing the embedded advertisement request 26, two things happen. First, the consumer computer 12 is directed to establish a communication link with the advertisement provider computer 18. Ex. 1007, 7:63-65. Second, the advertisement provider computer 18 is directed to execute a content provider script that exists on the advertisement provider 18 containing a content provider member code used to track ad views by consumers connected to the content provider computer 14. Ex. 1007, 7:65-8:7.

103. Upon the consumer computer 12 establishing a communication link with the advertisement provider computer 18, the advertisement provider computer 18 obtains a consumer member code 22 uniquely identifying the consumer computer 12 (and thus the consumer) from the consumer computer 12. Ex. 1007, 8:8-20. Utilizing this code, the advertisement provider computer 18 accesses consumer's profile stored in its demographic database, and then selects a customized advertisement 30 based on the profile. Finally, the advertisement provider computer 18 sends the customized advertisement 30 to the consumer computer 12, which merges it with the electronic page 32. *See* Ex. 1007, 8:8-20.

104. A POSITA reading Angles's description related to its FIG. 1 embodiment would understand that implementing this embodiment necessitates addressing several practical requirements.

105. First, there must be a direct both-way network communication link between the consumer computer 12 and the content provider computer 14. Indeed, as Angles explicitly discloses, in the interactive system illustrated by the preferred embodiment, the interactive process of delivering advertisements to the consumer computer necessarily begins with establishing a communication link between the consumer computer and the content provider computer.

106. Second, there must be a direct both-way network communication link between the consumer computer 12 and the advertisement provider computer 18. Further, for this communication link to be established, the content provider must necessarily include an embedded advertisement request 26 in its offering (i.e., in the electronic page 32), and the consumer computer must necessarily execute the embedded advertisement request included in the content provider computer's electronic page. A POSITA reading Angles would understand that an embedded advertisement request is a command, or an instruction built into the content provider computer's electronic page that, upon execution, directs the consumer computer to the URL of the advertisement provider computer. Upon reviewing the transcript of

Mr. Crane's deposition testimony, it appears that he agrees with this characterization. Ex. 2009, 210:17-211:21. A POSITA would appreciate that as of Angles's priority date, the most common way of including an embedded request in an electronic page was through an embedded hyperlink. "In the preferred embodiment, the advertisement request 26 is an HTML tag which directs the consumer computer 12 to establish a communication link with the advertisement provider computer 18." Ex. 1007, 15:5-9.

107. Third, the consumer computer 12 must necessarily "register[] with the advertisement provider computer 18," to be assigned a "unique consumer member codes 22." Under the section titled "Customized Advertisement Processing" and discussing FIG. 7,² Angles specifically states:

The advertising module 62 extracts the consumer member code 22 from the Cookie and determines whether the consumer has registered with the advertisement provider computer 18. **If the Cookie does not contain a consumer member code 22, the advertising module 62 proceeds to state 710.** However, if the Cookie does contain a consumer member code 22, the advertising module 62 proceeds to state 712.

² Note that FIG. 7 illustrates the flow diagram of "the preferred process" for advertisement processing. As such, FIG. 7 clarifies a specific aspect of the preferred embodiment.

At state 710, the advertising module 62 fills the advertising insert 56 with an advertisement which directs the unregistered consumer to register with the advertisement provider computer 18. If the consumer has registered with the advertisement provider computer 18, the advertising module 62 proceeds to state 712. In state 712, the advertising module 62 processes the advertisement request 26.

Ex. 1007, 19:41-58.

108. A POSITA reading this excerpt would understand the indispensable nature of the registration process with the advertisement provider computer for processing the advertisement request and delivery of customized advertisement to the consumer computer. Therefore, the consumer computer must register with the advertisement provider computer prior to establishing a communication link with the advertisement provider computer, or otherwise it is forced to register immediately after the communication link is established and prior to process of the advertisement request.

109. Fourth, as part of the registration process of the consumer computer with the advertisement provider computer, the consumer is prompt[ed]” to “enter demographic data.” Ex. 1007, 14:16-26. Angles explains that “[t]he demographic data can contain a wide variety of information, including, but not limited to, age, sex, income, career, interests, hobbies, consumer preferences, the account number of the consumer’s Internet provider, other account information, etc.

Once the consumer enters the demographic data, the registration module 60 stores the demographic data as a profile in the registration database 68.” *Id.* Accordingly, Angles’s preferred embodiments necessarily requires that the advertisement provider computer stores and maintains a consumer profile containing demographic data in its database.

110. Fifth, in Angles’s preferred embodiment, the advertisement provider computer must necessarily use the consumer’s profile to select an appropriate advertisement and subsequently send the same to the consumer computer.

[T]he advertising module 62 then uses the consumer profile to select an appropriate advertisement from the advertisement database 70. In another embodiment, the advertising module 62 uses both the consumer profile and the content provider information to select an appropriate advertisement from the advertisement database 70. The advertising module 62 then sends a customized advertisement 30 directly to the consumer computer 12 to be incorporated into an electronic page 32 from the content provider computer 14.

Ex. 1007, 15:20-31. I note that the advertising module 62 is a module located at the advertisement provider computer. “The advertisement provider computer 18 utilizes a variety of modules to store customer information and to generate customized advertisements 30. The modules include a registration module 60, an advertising

module 62, a registration database 68, an advertisement database 70 and an accounting database 72.” *Id.*, 13:47-52.

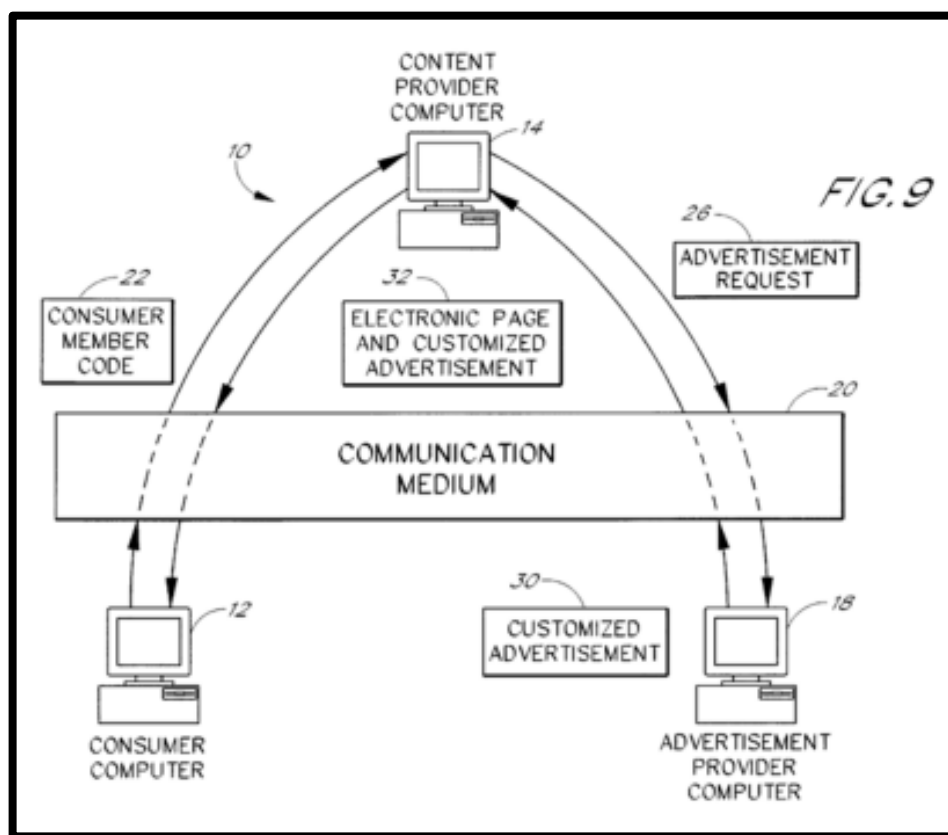
111. Further, since in Angles’s preferred embodiment, there is no communication link between the content provider computer and the advertisement provider computer, a POSITA would understand that this embodiment does not allow for direct incorporation of the customized advertisement into the content provider’s electronic page. As explained in greater detail below, Angles itself recognizes that such direct incorporation necessarily requires that “transfer[] of the customized advertisement 30 from the advertisement provider computer 18 to the content provider computer 14 happens prior to sending the electronic page 32 to the consumer.” Ex. 1007, 21:45-52.

112. Further, Angles’s preferred embodiment allows the advertisement provider computer to “track[] the consumer’s response to the customized advertisement.” Ex. 1007, 3:2-5. Further, this embodiment allows the advertisement provider computer to send new advertisements to the consumer computer “if the consumer continues to view the electronic page 32.” *Id.*, 20:11-13. “For example, if a consumer views a particular electronic page 32 for more than a minute, the advertising module 52 can send a new customized advertisement 30.” .” *Id.*, 20:14-17.

113. As discussed below, Angles's FIG. 9 embodiment both structurally and functionally differs from Angles's FIG. 1 embodiment in various significant ways.

ii. *A POSITA's understanding of Angles's FIG. 9 embodiment*

114. Angles refers to its FIG. 9 embodiment as an "alternative embodiment." *Id.*, 5:10-14. Angles's alternative embodiment of FIG. 9 is reproduced below.



115. In Angles's alternative embodiment of FIG. 9, "the advertisement provider computer 18 sends the customized advertisement 30 to the content provider computer 14." Ex. 1007, 21:34-37. Then, "the content provider incorporates the

customized advertisement 30 into an electronic page 32.” *Id.*, 21:38-40. Subsequently, “[t]he content provider computer 14 [] forwards the electronic page 32, combined with the customized advertisement 30 to the consumer computer 12.” *Id.*, 21:40-42. Angles goes on to state that

Because transferring the customized advertisement 30 from the advertisement provider computer 18 to the content provider computer 14 happens prior to sending the electronic page 32 to the consumer, the electronic page 32 appears to the consumer like all other electronic pages 32 on the Internet 33, except that it contains the customized advertisement 30 which has been pre-selected for that consumer.

Ex. 1007, 21:45-52.

116. A POSITA reading Angles’s description related to its FIG. 1 embodiment would understand that implementing this embodiment necessitates addressing several practical requirements.

117. First, there must be a direct both-way network communication link between the content provider computer 14 and the advertisement provider computer 18.

118. Although Angles does not explicitly disclose it, but a POSITA reading Angles’s disclosure would recognize that in the interactive system illustrated by the alternative embodiment of FIG. 9, the interactive process of delivering advertisement

to the consumer computer necessarily begins with establishing a communication link between the content provider computer and the advertisement provider computer.

119. The practical infeasibility associated with beginning the interactive process of delivering advertisement to the consumer computer illustrated by FIG. 9 with establishing a communication link between the consumer computer and the content provider computer is infeasible. In such a scenario, after a communication link between the consumer computer and the content provider computer is established, then the consumer must wait for the content provider computer to complete the following three steps: (1) establishing a communication link with the advertisement provider computer, (2) receiving a customized advertisement from the advertisement provider computer, and (3) incorporating the same into the electronic page offered by the content provider computer. Since Angles specifically requires that the content provider computer combines the electronic page with the customized advertisement “prior to” “forward[ing]” it to the consumer computer, (See Ex. 1007, 21:38-52), the consumer must wait until all the above-listed steps are completed. As of Angles’s priority date, a POSITA would understand that the substantial latency associated with this scenario would render it impractical and infeasible.

120. In fact, Angles itself recognizes this infeasibility, which is why in the FIG. 9 embodiment, the advertisement delivered to the consumer computer is “pre-

selected.” *Id.*, 21:51-52. This indicates that the advertisement is selected by the advertisement provider computer and sent to the content provider computer for incorporation into the content provider’s offerings without any information as to the identity of the consumer viewing it. Certainly, if the process illustrated by FIG. 9 was to begin with the consumer computer establishing a communication link with the content provider computer followed by the content provider computer establishing a communication link with the advertisement provider computer, the advertisement provider computer would know enough information about the identity of the consumer to select—instead of “pre-select”—an appropriate advertisement.

121. Therefore, unlike Angles’s preferred embodiment of FIG. 1, where establishing a communication link between the consumer computer and the content provider computer is the first step, in FIG. 9 embodiment establishing a communication link between the content provider computer and the advertisement provider computer is the first step.

122. Second, since there is no direct communication link is established between the consumer computer and the advertisement provider computer in Angles’s FIG. 9, advertisement delivery to the consumer computer necessarily cannot be accomplished by the content provider computer embedding an advertisement request in the content provider’s electronic page. Instead, as Angles

expressly discloses “the customized advertisements 30 to be incorporated directly into the content provider’s offerings” by the content provider computer. *Id.*, 21:53-55.

123. Furthermore, because in Angles’s FIG. 9 the “pre-selected” advertisement is incorporated into the content provider’s electronic page prior to sending it to the consumer computer, the FIG. 9 embodiment does not allow for updating the advertisement or sending a new advertisement while the user is viewing the electronic page. To do so necessarily requires the content provider computer sending a new electronic page to the consumer computer with the new advertisement incorporated in it.

124. Furthermore, under Angles’s alternative embodiment of FIG. 9, a consumer is not required to register with the advertisement provider computer and create a consumer profile by indicating demographic information. This is because (1) there exists no communication between the consumer computer and the advertisement provider computer, and (2) the advertisement is “pre-selected” for the consumer without regard to the consumer’s preferences.

125. Furthermore, in FIG. 9 the consumer cannot execute a user action on an advertisement directly incorporated into the game (such as “us[ing] a mouse to select an embedded hyper-link in the custom advertisement” that Petitioner relies on). This

is because by directly incorporating the advertisement into the game, the need for embedding an advertisement request and hyperlinking in the content provider's online offerings is eliminated. Simply put, the consumer in Angles's FIG. 9 embodiment cannot click on a hyperlink because there exists none. And even if the consumer were to click on the advertisement already incorporated into the game, the consumer would not be redirected to anywhere else for additional information, for there exists no communication between the consumer computer and the advertisement provider computer in Angles's FIG. 9.

126. The following Table summarizes key fundamental and structural differences between Angles's FIGs. 1 and 9.

FIG. 1	FIG. 9
The first communication link is established <i>between consumer computer and content provider computer</i>	The first communication link is established <i>between content provider computer and advertisement provider computer</i>
Direct communication link between consumer computer and advertisement provider computer <i>must exist</i>	Direct communication link between consumer computer and advertisement provider computer <i>cannot exist</i>
Direct communication link between content provider computer and advertisement provider computer <i>cannot exist</i>	Direct communication link between content provider computer and advertisement provider computer <i>must exist</i>

FIG. 1	FIG. 9
Content provider's electronic page <i>must contain an embedded advertisement request</i> directing consumer computer to advertisement provider computer	Content provider's electronic page <i>cannot contain an embedded advertisement request</i> directing consumer computer to advertisement provider computer
Content provider computer <i>cannot directly incorporate advertisement into its electronic page</i> prior to sending it to consumer	Content provider computer <i>must directly incorporate advertisement into its electronic page</i> prior to sending it to consumer
Consumer computer <i>must register with advertisement provider computer</i>	<i>Registration with advertisement provider computer is not required</i>
Advertisement provider <i>must maintain a consumer profile</i> containing demographic information	Advertisement provider <i>does not maintain a consumer profile</i> containing demographic information
<i>Identity of consumer is known to advertisement provider computer</i> prior to selecting advertisement	<i>Identity of consumer is not known to advertisement provider computer</i> prior to selecting advertisement
<i>Advertisement must be selected based on the consumer profile</i>	<i>Advertisement must be pre-selected</i>
Advertisement provider computer <i>can track consumer's response and send a new advertisement</i>	Advertisement provider computer <i>cannot track consumer's response or send a new advertisement</i>
Consumer <i>can execute user's action on a custom advertisement because the custom</i>	Consumer <i>cannot execute user's action on a custom advertisement because the custom advertisement is already incorporated into</i>

FIG. 1	FIG. 9
<i>advertisement can have a hyperlink</i> on which the consumer may mouse-click	<i>the content provider's offerings</i> , obviating the need for an embedded hyperlink

127. Drawing from my analysis in Paragraphs 100-126, it is my conclusion that a POSITA reading Angles's disclosures vis-à-vis FIG. 1 and FIG. 9 would understand that these two embodiments are fundamentally, structurally, and technically distinct and cannot be combined.

128. Furthermore, I note that a POSITA reading Angles would readily recognize that Angles distinguishes between its preferred embodiment (i.e., FIG. 1) and the alternative embodiments (including FIG. 9). In sections romanette I-IV (spanning from column 5 to column 21), Angles consistently uses the term "preferred" to refer to certain unique aspects of the preferred embodiment. However, in section romanette V, where Angles discusses its alternative embodiments, it never uses the term "preferred." While this may not be dispositive by and of itself, when it is viewed in the broader context of fundamental differences between the two embodiments, a POSITA would understand that Angles distinguishes between the two embodiments. Notably, Angles never discloses that its two embodiments of FIG. 1 and FIG. 9 are combinable.

129. Based on the analysis presented in Paragraphs 100-128, it is my conclusion that a POSITA reading Angles would perceive the embodiments depicted in Angles's FIGs. 1 and 9 as vastly different. Adopting one effectively teaches away from the adoption of the other. Therefore, the idea that a POSITA would be motivated to combine these two distinctly different, non-combinable embodiments stems from impermissible hindsight reasoning.

c. Angles's disclosure of online games

130. The Petition, Mr. Crane's declaration, and the Board's Institution Decision repeatedly focus on the following excerpt from Angles

The embodiment shown in FIG. 9 allows the customized advertisements 30 to be incorporated directly into the content provider's offerings. Thus, in addition to integrating the customized advertisements 30 in to an electronic page 32, 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.

For example, assuming the content provider computer 14 offers consumers on-line games such as interactive car races. In this example, the content provider computer 14 can integrate the customized advertisements 30 into signs and billboards which appear in the interactive game.

Ex. 1007, 21:53-65.

Therefore, it is crucially important to spell out what this excerpt communicates to a POSITA.

131. This excerpt begins by identifying one of the most important differences between the FIG. 9 embodiment and the preferred embodiment of FIG. 1—effectively contrasting the two embodiments: “The embodiment shown in FIG. 9 allows the customized advertisements 30 to be incorporated directly into the content provider’s offerings.” Ex. 1007, 21:53-55. As explained in great detail above, this is one of the fundamental differences between the two embodiments. In other words, FIG. 1 embodiment does not “allow[] the customized advertisements 30 to be incorporated directly into the content provider’s offerings.” *Id.* And Angles makes this difference abundantly clear here.

132. Angles goes on to say that this difference makes FIG. 9 embodiment to have an advantage “**in addition to**” what FIG. 1 embodiment offers. Remember, as discussed in Paragraph 103 Angles’s FIG. 1 embodiment allows the consumer computer 12 to merge the customized advertisement 30 with the electronic page 32. Thus, here Angles makes it clear that Angles’s FIG. 9 offers an advantage that Angles’s FIG. 1 could not: “[T]he 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. And the car race example that follows makes Angles’s point even clearer.

133. Therefore, it is important to note that by Angles’s own admission only FIG. 9 embodiment is capable of integrating advertisements into online games, and such integration takes place at the content provider’s computer “prior to sending [the game] to the consumer.” See Ex. 1007, 21:38-52. Angles’s FIG. 1 has no applicability to online games or gaming in general, which is supported by Angles’s own disclosure. In my opinion, this would be a POSITA’s understanding of this excerpt.

134. What logically follows is that to the extent Angles has any applicability to online games, integration of advertisement into such games takes place prior to a consumer executing the games, or in Mr. Crane’s words, “running the game program[s].” Ex. 2009, 220:15-18

135. With this conclusion in mind, I would like to highlight and discuss Mr. Crane’s self-contradiction concerning the location and timing of the integration of advertisements in Angles’s FIG. 9. Upon reviewing the transcript of Mr. Crane’s deposition testimony, it appears that Mr. Crane agreed with my characterization that in Angles’s FIG. 9, integration of advertisements into the content provider’s offerings occur at the content provider computer prior to sending it to the consumer.

Specifically, on pp 226-229 of his deposition transcript (Ex. 2009, pp. 226-229), I see the following exchanges between Patent Owner's counsel and Mr. Crane:

- Question: “Reading from lines 38 through 42, do you have an understanding of how the customized advertisement 32 is sent -- is received by the content provider computer 14 and sent along to the consumer computer 12?”

Mr. Crane: “My understanding from reading this section [i.e., discussion of Angles’s FIG. 9] is that there’s a customized advertisement that is incorporated into content information which is then forwarded to the user computer.”

- Question: “Is it your testimony that when the content provider combines 32, which is the electronic page and customized advertisement in Figure 9, that the integration of those two happens automatically[?]”

Mr. Crane: “It is incorporated before then being submitted down to the consumer computer. It’s part of a process, I suppose it would be automatic in that case.”

- Question: “Referring specifically to Figure 9, where is the electronic page and customized advertisement created?”

Mr. Crane: “The electronic page is created on the content creator.
*The customized advertise is passed to the content provider, and the
combined data is sent down to the consumer computer.*”

- **Question**: “*Can the consumer computer 12 execute the electronic
page 32 before the elec -- before the electronic page 32 is sent to the
consumer computer 12?*”

Mr. Crane: “No.”

136. The statements cited in the above paragraph, and especially the highlighted portions, clearly show that Mr. Crane agrees with the conclusion that in Angles’s FIG.9 integration of advertisements occurs at the content provider computer before the consumer computer receiving the content provider’s offerings. However, on the second day of the deposition, Mr. Crane completely reverses his position. Specifically, on pp 423-424 of his deposition transcript (Ex. 2010, pp. 423-424), I see the following exchanges between **Petitioner’s counsel** and **Mr. Crane**:

- **Question**: “Would a POSITA reading Angles understand that the only place where customized advertisements could be integrated into an online game is at the content provider computer?”

Mr. Crane: “No[,]” because, “[i]f you are integrating customized advertisements into virtual reality environments on billboards, for

example, that integration has to occur inside the game code, which is on the client device, in order to change its perspective to match the billboard as you're driving around in a 3D world, for example.”

- **Question:** “So where does the integration actually occur in that situation, Mr. Crane?”

Mr. Crane: “That integration has to occur during game play while it's executing[,] “[o]n the client device.””

- **Question:** “So just to confirm, would a POSITA reading Angles understand that the customized advertisements could be integrated into an online game at the consumer computer shown in Figure 9 of Angles?”

Mr. Crane: “That’s where that would take place.”

137. The statements cited in the above paragraph, and especially the highlighted portions, clearly show that on the second day of the deposition, Mr. Crane contradicts his testimony on the first day of the deposition, now contending that in Angles’s FIG.9 integration of advertisements “has to” occur at the consumer computer (i.e., the client device)—not the content provider computer as he maintained earlier.

138. Later when Mr. Crane is confronted by Patent Owner’s counsel regarding taking contradictory positions (pp. 436-438 of his deposition transcript—Ex. 2010, pp. 436-438), Mr. Crane states that “I believe my testimony [on the first day of the deposition] was that the advertisement and the content are combined in the content provider, delivered to the consumer computer. In redirect [on the second day of the deposition], we were talking about what also happens in the consumer computer[,]” where, according to him, the integration “has to occur.” That said, he still admits that “[m]y understanding from reading this section is that there is a customized advertisement that is incorporated into content information which is then forwarded to the user computer.”

139. It appears that Mr. Crane purports to distinguish between “combining” and “incorporating” on one hand and “integrating” on the other. No POSITA would agree with Mr. Crane’s arbitrarily drawn distinction. The IEEE dictionary defines “integration” in the software world as “[t]he process of combining software components ... into an overall system.” Ex. 2008 at 537 (definition of “integration”). The Microsoft Computer Dictionary also defines “integration” as “the combining of different ... programs ... into a functional unit.” Ex. 2007 at 277-78 (definition of “integration”). I also add that on the first day of the deposition, Mr. Crane himself used the term “incorporate[ion]” in response to a question about “integration,”

indicating that he understands the two terms are synonyms in the software world. Ex. 2009, 228:3-11; *see also* Ex. 1004, ¶¶84-85 (using integration and incorporation as synonyms). Accordingly, Mr. Carne's attempt to draw an arbitrary line between combining and integrating is not supported. In my opinion, a POSITA would agree with Mr. Crane's statements on the first the day of deposition as to this particular subject, and flatly rejects his statements on the second day.

140. Here I would like to address two additional misnomers in Mr. Crane's declaration and analysis that fatally undermine his conclusions. First, in Paragraph 72 of his declaration, Mr. Crane states

Prior to the priority date of the '028 Patent, the Shockwave plug-in was installed in the browser programs on millions of computers, turning each browser program into a game-playing program. The playing of browser-based games was well known in the art, and a POSITA would have recognized that a browser program that resides on a game player's computer served as a locally executed game application.

Ex. 1004, ¶72. In essence, Mr. Crane states through these lines that merely because installing the Shockwave plug-in in the browser program enables a user to play online games, then the browser itself is a locally executed game application.

141. This argument by Mr. Crane is over-reaching and leads to an implausible conclusion. Just because a Netflix application installed on a smart TV would enable

a user to watch certain movies, neither the smart TV software nor the Netflix application is a movie. For the same reason, Mr. Crane is incorrect. Much like to be a movie requires a story or event recorded by a camera as a set of moving images, to be a game application, a software program must create a “mental competition in which the participants, called players, seek to achieve some objective within a given set of rules.” Ex. 2008 at 446 (definition of “game”). A browser does not meet this definition, and thus it cannot be a game application.

142. Accordingly, Paragraph 84 of Mr. Crane’s declaration is equally flawed. He incorrectly states that “[t]he customized advertisements taught by Angles can be integrated into online games, including those played on a locally executed game application (i.e., a Web Browser, aka “the consumer browser module”).” Ex. 1004, ¶84.

143. Second, Mr. Crane erroneously considers a game that is locally executed on a user’s computer to be always accessible at the user’s device. See Ex. 2009, 215:23-216:14; This is incorrect in the context of online games, where the game is held at a server device and is locally executed by the user on the user’s device. It is important to note that a user can access an online game through the network by establishing communication with the server device holding the game. But this does not mean that the online game is accessible at the user’s device. For if it were

otherwise, the user should be able to access the online game absent a network communication with the server.

144. Therefore, it is my opinion that a POSITA reading Angles would recognize that Angles's online games are not accessible at a consumer computer, but merely executed locally on the consumer computer through a browser.

d. Petitioner's Ground 1 analysis is self-inconsistent

145. As I discussed in Paragraphs 130-134 the content of which I incorporate herein, by Angles's own admission the only embodiment in Angles that is capable of integrating advertisement into online games is FIG. 9.

146. Recognizing this undisputable fact, both Petitioner and Mr. Crane rely exclusively on Angles's FIG. 9 embodiment for limitations 1[c] and 7[d]. I also note that the Board also relies on Angles's FIG. 9 in its institution decision for limitation 1[c]. However, for virtually all other limitations, including the limitations of the dependent claims, both Petitioner and Mr. Crane rely on Angles's disclosure directed at FIG. 1 embodiment. *See, e.g.*, Pet. 20-23; 27-33.

147. As I discussed in Paragraphs 100-129 the content of which I incorporated herein, a POSITA reading Angles cannot be possibly motivated to combine the two embodiments that are structurally so different that adoption of one teaches away from adoption of the other.

148. Accordingly, and for this reason alone, it is my conclusion that Petitioner's obviousness theory is self-inconsistent. However, even if this is overlooked, Angles still falls short of rendering the challenged claims obvious for the reasons discussed below.

*e. Petitioner's limitation-by-limitation analysis of
Challenged Claims*

149. Regarding **limitations 1[a]**, a POSITA would understand that Angles does not teach or suggest "a locally executed game application that is accessible at said primary electronic device."

150. As discussed in Paragraphs 33-49 the content of which I incorporate herein, Claim 1 requires that the game application be locally executed and be accessible at the user's device.

151. However, to the extent Angles does briefly discuss a game application, Angles discloses an online game. As I explained in Paragraphs 33-40 the content of which I incorporate herein, online games while locally executed on the user's device, **they are not accessible at the user's device**. They are accessible at the server, i.e., Angles's content provider computer. The consumer computer can merely access online games through the network from the content provider's computer. For this reason alone, Angles does not render obvious Claim 1.

152. Regarding **limitation 1[c]**, a POSITA would understand that Angles does not teach or suggest “automatically integrating business-related content ... into said locally executed game application during execution of said game application.”

153. As discussed in Paragraphs 50-53 the content of which I incorporate herein, Claim 1 requires that the integration occurs “during execution of said game application.” Further as explained in those paragraphs, a POSITA would understand that this integration must necessarily occur while the locally executed game is running on the user’s device.

154. Petitioner relies exclusively on Angles’s disclosure of FIG. 9 in its obviousness analysis. However, as discussed in Paragraphs 130-139, the content of which I incorporate herein, in Angles’s FIG. 9, customized advertisements are integrated into the content provider’s offerings (such as online games) prior to the consumer computer executing the same. For this additional reason, Angles does not render obvious Claim 1.

155. Regarding **limitation 1[d]**, a POSITA would understand that Angles does not teach “automatically re-directing said user to one of said web pages of said secondary electronic device ..., said re-direction being integrated into said game application and said re-direction occurring as part of the user executing said game application.”

156. As discussed in Paragraphs 54-58 the content of which I incorporate herein, Claim 1 requires that the claimed re-direction occurs automatically and not manually, the re-direction be integrated into the game play, and the software code responsible for the re-direction be part of the game software being run on the user's device.

157. However, besides the fact that Petitioner relies on FIG. 1 of Angles, which cannot be combined with the FIG. 9 embodiment, the sections of Angles's disclosure that Petitioner relies on do not teach this limitation. Petitioner draws from Angles's disclosure of hyperlinking, which offers a consumer the choice to manually click on a hyperlink for immediate transportation to another website to learn more about an advertisement. *See* Pet. 27. However, Angles's disclosure of re-direction via hyperlink does not teach automatic re-direction as part of the gameplay that the consumer must necessarily undergo. For this additional reason, Angles does not render obvious Claim 1.

158. Regarding **Claim 3**, a POSITA would understand that Angles does not teach the term "game application displays branded business-related content to said user."

159. As discussed in Paragraphs 149-157, Angles does not render obvious Claim 1. For this reason alone, Angles does not render obvious Claim 3 depending from Claim 1.

160. Further, as discussed in Paragraphs 59-62 the content of which I incorporate herein, Claim 3 requires the game application standalone displays business-related content that “uniquely identifies the goods and services of a particular company.”

161. However, Angles’s disclosure of online games never provides that the games by and of themselves display branded advertisements. Angles merely states that the customized advertisements can be integrated into the online games consistent with its FIG. 9 embodiment. *See Angles*, 21:34-60. As discussed above in paragraphs 61-62, this is different from a game displaying branded business-related content. Further, I make this statement because after a thorough search of the Angles patent, I cannot find a single instance of the word “brand” or a term that could be considered a synonym. There is much discussion about “customized advertisements,” but in my view, these could be sent to a user without revealing any branding. In fact, there is a section of Angles (Ex. 1007, 3:6-17) that discusses the advertisements being sent to consumers based on their interests, and thus, not on their brand preferences.

162. Regarding **Claim 4**, a POSITA would understand that Angles does not teach “said branded business-related content is dynamically updated.”

163. As discussed in Paragraphs 158-161, Angles does not render obvious Claim 3. For this reason alone, Angles does not render obvious Claim 4 depending from Claim 3.

164. For the reasons discussed in Paragraphs 63-69, the content of which I incorporate herein, Claim 4 requires that the very same branded business-related content displayed by the game application be dynamically updated. This necessarily requires that the game application updates the branded business-related content displayed.

165. However, besides the fact that Petitioner relies on FIG. 1 of Angles, which cannot be combined with the FIG. 9 embodiment, the sections of Angles’s disclosure that Petitioner relies on do not teach this limitation. First as discussed in Paragraph 161, Angles does not disclose branded business-related content displayed by the game application. Further, Petitioner draws from Angles’s disclosure that the advertisement module located on the advertisement provider computer sending the consumer computer a new advertisement. However, as discussed above in Paragraphs 63-69, sending a new advertisement (or even displaying a new branded content) is not the same as updating the branded content that was already displayed

to the consumer. Also, contrary to Angles's disclosure that the advertisement provider computer sends a new advertisement to the consumer computer, Claim 4 requires the game application that is accessible at the user's device to update the branded business-related content. For this additional reason, Angles does not render obvious Claim 4.

166. Regarding **Claim 5**, as discussed in Paragraphs 149-157, Angles does not render obvious Claim 1. For this reason alone, Angles does not render obvious Claim 5 depending from Claim 1.

167. Further, regarding **limitation 5[a]**, a POSITA would understand that Angles does not teach "executing game-related user actions *in said game application* as a result of user choices."

168. As discussed in Paragraphs 70-74 above the content of which I incorporate herein, Claim 5 requires that the claimed user actions be game-related and that these actions be outward manifestations of user choices that are being executed in the game. Furthermore, a POSITA would readily recognize that the game-related user actions must necessarily be from user actions on business-related content of limitation 1[e].

169. However, besides the fact that Petitioner relies on FIG. 1 of Angles, which cannot be combined with the FIG. 9 embodiment, the sections of Angles's

disclosure that Petitioner relies on do not teach this limitation. Petitioner draws from Angles's disclosure that the consumer "can direct the browser to access information provided by one of the content provider computers," such as an "online game." However, this is not a game-related user action executed "in said game application." Pet. 29-30. The action upon which Petitioner relies occurs prior to executing the game. For this additional reason, Angles does not render obvious Claim 5.

170. Further, regarding **limitation 5[b]**, a POSITA would understand that Angles does not teach "generating a player profile based on said user choices made during said game application."

171. As I discussed in Paragraphs 75-77 content of which I incorporate herein, the claimed profile is not an actual profile of the person playing the game, it is a profile that ties to the *character* representing the player in the game. It is a player profile, not a user profile that uniquely identifies the user. Furthermore, this profile is generated based on the game play and user choices during the game.

172. However, besides the fact that Petitioner relies on FIG. 1 of Angles, which cannot be combined with the FIG. 9 embodiment, the sections of Angles's disclosure that Petitioner relies on do not teach this limitation. Angles's profile requires a user to enter detailed demographic data into a database, based on which custom advertisements can be selected and sent to them. See Paragraphs 107-109.

Angles's profile is tied to the consumer. And, this data is not entered during game play, but is entered on a separate server. Ex. 1007, 3:6-17. For this additional reason, Angles does not render obvious Claim 5.

173. Regarding **Claim 6**, a POSITA would understand that Angles does not teach "said player profile is disseminated to providers of business-related content used in said game application."

174. As discussed in Paragraphs 166-172, Angles does not render obvious Claim 5. For this reason alone Angles does not render obvious Claim 6 depending from Claim 5.

175. Further, for the reasons discussed in Paragraphs 78-84, the content of which I incorporate herein, the player profile in Claim 6 must be held at the user's device and must be sent to providers of business-related content.

176. However, besides the fact that Petitioner relies on FIG. 1 of Angles, which cannot be combined with the FIG. 9 embodiment, the sections of Angles's disclosure that Petitioner relies on do not teach this limitation. In Angles, user demographic profiles are stored on the advertisement provider computer in a registration database. When a request is made, an advertisement is selected from an advertisement database, which is also located on the advertisement provider computer. The advertisement is selected so that it is appropriate according to the

demographic data in the registration database. So, a profile is used by the advertisement provider computer, but is not disseminated to any other computer. For this additional reason, Angles does not render obvious Claim 6.

177. Regarding **limitation 7[d]**, a POSITA would understand that Angles does not teach “automatically integrating said content from said secondary electronic device into said at least one of said plurality of locally executed applications during execution of said at least one of said plurality of applications.” As discussed in Paragraphs 85-88, a POSITA would understand that the term “application” in Claim 7 means “game application.” Therefore, since this limitation encompasses the same scope and meaning as limitation 1[c], and Petitioner presents no new argument beyond what it raises for limitation 1[c], I incorporate herein my reasoning and analysis provided in Paragraphs 152-154 for limitation 1[c]. For this reason alone, Angles does not render obvious Claim 7.

178. Regarding **limitation 7[e]**, a POSITA would understand that Angles does not teach “automatically re-directing said user to one of said customized web pages at said secondary electronic device, from said primary electronic device, said re-direction being integrated into said one of said plurality of applications and said re-direction occurring as part of the user executing said one of said plurality of applications.” As discussed in Paragraphs 85-88, a POSITA would understand that

the term “application” in Claim 7 means “game application.” Therefore, since this limitation encompasses the same scope and meaning as limitation 1[d], and Petitioner presents no new argument beyond what it raises for limitation 1[d], I incorporate herein my reasoning and analysis provided in Paragraphs 155-157 for limitation 1[d]. For this additional reason, Angles does not render obvious Claim 7.

179. Regarding **Claims 8 and 9**, as discussed in Paragraphs 177-178, Angles does not render obvious Claim 7. For this reason alone, Angles does not render obvious Claims 8 and 9 depending from Claim 7.

B. Ground 2: Robinson in view of knowledge of a POSITA

I. Background On Asserted Reference Robinson

179. Robinson is a U.S. Patent, titled “System and method to configure and provide a network-enabled three-dimensional computing environment.”

180. Robinson discloses “[a] computer network-based system and method to configure and provide network-enabled three-dimensional computing environments.” Ex. 1008, Abstract.

a. Robinson’s Scope and Content from a POSITA’s Perspective

181. Robinson identifies its field of invention as “**computer interfaces, networking, e-commerce, and configurable websites.**” *Id.*, 1:14-15. Specifically, Robinson disclosed an “**improved system and method**” in the field of

“configure[ing] and provid[ing] network-enabled three-dimensional computing environments.” *Id.*, 1:15-18.

182. Robinson’s proposed improvement centers around the concept that **“[b]eing in’** a computing environment is more intuitive and user-friendly than merely **‘looking into’** it.” *Id.*, 1:33-35. In essence, Robinson identifies lack of immersion as a problem with conventional one-dimensional and two-dimensional user interfaces with computers. *Id.*, 1:39-49. In response to this problem, Robinson suggests the implementation of a “network-enabled three-dimensional computing environment.” *Id.*

183. In the “SUMMARY OF THE INVENTION” section, Robinson defines the scope of its invention to be directed at “create[ing] an intuitive 3D desktop environment.”

The presently disclosed technology enables users to interact fully, intuitively and far more easily “in” **a spatial 3D environment**. This technology enables each user to **create an intuitive 3D desktop environment** tailored to their specific needs. **When turned on, the user’s computer screen displays a 3D room or scene**, which can be customized with virtual objects. The user can “enter” the space, rather than merely “view it”, operate intuitively within it (360° in every direction), and invite others to enter, participate and interact in that space. This novel technology offers an enjoyable, interactive

environment as a welcome alternative to the current predominantly 2D, text-based Internet experience.

Id., 1:55-67.

184. Robinson refers to this 3D desktop environment (or 3D visual interface) as a 3D computing environment. Specifically, Robinson explains in detail what its invention proposes to improve:

When a conventional computer user turns his or her computer on, he or she sees a flat desktop computing environment with icons on the glass surface of the monitor; currently, no one “owns” the computer desktop or has done much with the desktop other than simple screen savers. The present invention improves this desktop computing environment by creating a **3D visual interface** for computing environments. With the interface of the present invention, a user turns his or her computer on and the monitor immediately **displays the computer desktop as a 360°, 3-Dimensional room “inside” of the monitor**—a **3D computing environment**.

Ex. 1008, 5:11-23.

185. Upon examining the transcript of Mr. Crane’s deposition testimony, it appears that Petitioner’s expert, Mr. Crane, in this proceeding concurs with this characterization of Robinson. When addressing Robinson’s “persistent client window,” Mr. Crane clarifies that it is “a window within the three-dimensional desktop that Robinson talks about as part of his invention.” Ex. 2010, 348:25-349:4. Furthermore, in response to the subsequent question about the “virtual desktop,” Mr.

Crane equates it with a 3D desktop: “Yeah. I mean, Robinson talks about this at length. This is -- this is your computer display. But instead of just looking at icons and various backgrounds, it’s a 3D view. It’s kind of a three-dimensional browser. So, yeah, that’s – that’s something that Robinson talks about a lot.” Ex. 2010, 349:5-13.

186. Upon examining Robinson’s prosecution history, it appears that Robinson’s applicant described its invention as being directed at “a 3D desktop to display content of a Web page in a 3D environment, where the 3D desktop includes a persistent client window.” Ex. 2012 at 40 (Response to Office Action). It must be noted that while the applicant made this statement in relation to Robinson’s claims (particularly independent claim 1), it goes on to state in such unequivocal terms that Robinson’s Claims 1-5 “particularly point out and distinctly claim, ***in full***, clear, concise, and exact terms, ***the subject matter which Applicant regards as his invention***.” *Id.* I further note that the examiner prosecuting the Robinson application also noted in the examiner’s statement of reasons for allowance that Robinson’s invention is directed at a “three dimensional desktop upon whose surfaces the icons are displayed in the three dimensional environment, and that the two dimensional web page converted to the useable form in the three dimensional environment is from the web server over the internet such that, a user may navigate content of the

converted web page in a three dimensional manner including displaying content of the converted page in a persistent client window of the three dimensional desktop that is persistent even if the internet connection has been terminated.” *Id.*, at 7. Therefore, a POSITA reading this would conclude that Robinson’s claims describe, “**in full** ... **terms**,” the entirety of Robinson’s invention. *Id.*, at 40.

187. Robinson is clear about the subject matter that its disclosure “enables.” Ex. 1008, 9:51-53. Robinson’s FIGs. 4 and 5, specifically illustrate “the structure and processes provided and enabled by the present invention.” *Id.* FIG. 4 is reproduced below.

In FIG. 4, the **present invention** provides a structure and process for **enabling** existing two-dimensional e-commerce engines to employ the three-dimensional computing environment in an e-commerce setting. In FIG. 5, the **present invention** provides a structure and process for **enabling** existing two-dimensional e-community databases to employ the three-dimensional computing environment in an e-community database setting.

Id., 9:53-60.

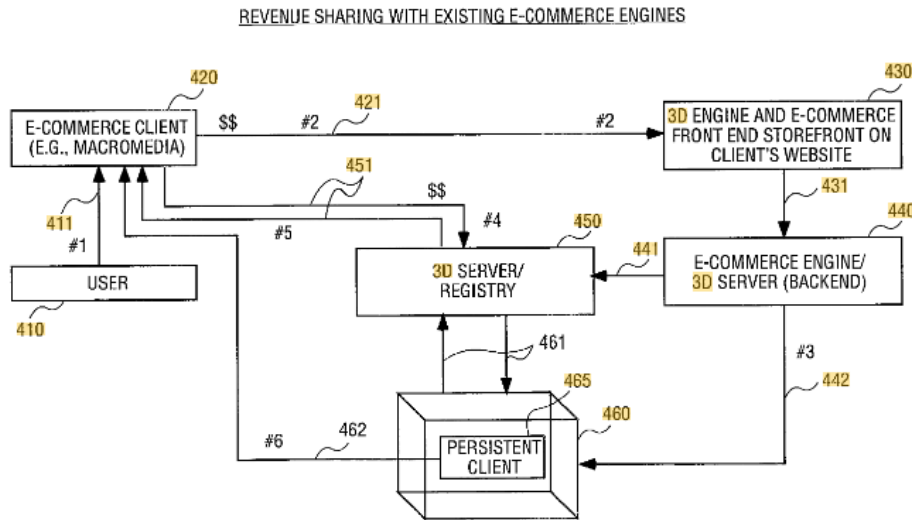


FIG. 4

188. Drawing from my analysis in Paragraphs 181-187, it is my conclusion that a POSITA reading the clear and unambiguous statements in the Robinson specifications together with statements made during the prosecution history would conclude that Robinson's disclosure merely "enables users to interact fully, intuitively and far more easily 'in' a spatial 3D environment." *Id.*, 1:55-57.

189. I note that all disclosed aspects of Robinson's disclosure are disclosed to "enable[] users to interact fully, intuitively and far more easily 'in' a spatial 3D environment," as the following examples show.

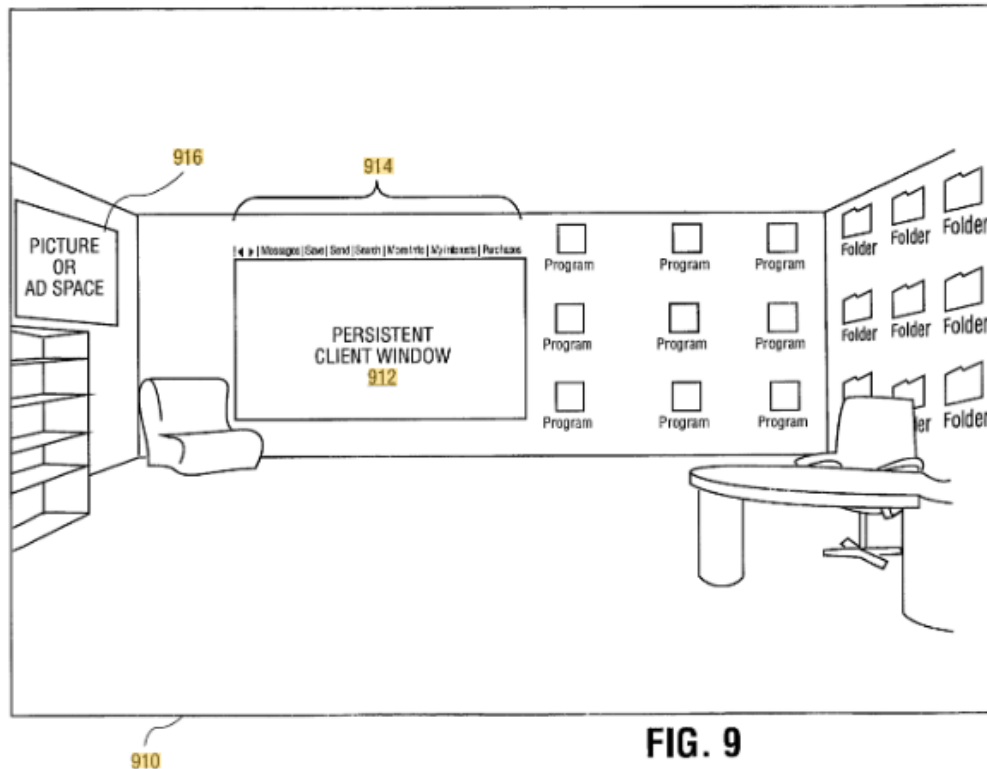
190. For example, Robinson discloses an "interpreter 318 is a utility that is specific to the network-enabled 3D computing environment." *Id.*, 7:55-58. This "utility" merely "allows the 3D desktop 314 to interpret incoming data from the

Internet 320, for presentation to the desktop 314.” *Id.* This aspect of Robinson specifically shows—consistent with Robinson’s overarching goal of “enabl[ing] users to interact fully, intuitively and far more easily ‘in’ a spatial 3D environment” (*Id.*, 1:55-57)—how the interpreter 318 interprets two-dimensional data received from internet (that is, “webpages 322 not enabled for the 3D environment,” (*Id.*, 7:60-61)) and, in the words of Robinson’s examiner, “convert[s] [it] to the useable form in the three dimensional environment” for display on the desktop 314. Ex. 2012 at 7.

191. For another example, Robinson discloses a “Persistent Client-enabled desktop,” which the rest of Robinson defines as a 3D desktop that “displays a spatial 3D environment that can be navigated 360 degrees from left to right” on which there is a Persistent Client Window for displaying advertisements. *See* Ex. 1008, 12:48-60. Again, this disclosure “enables users to interact fully, intuitively and far more easily” with the Persistent Client Window displaying advertisements while the users are still “‘in’ a spatial 3D environment.” *See id.*, 1:55-57. Specifically, Persistent Client-enabled desktop “enable[s] [] users to navigate to product offerings offered from the advertisement sponsor.” *Id.*, 12:54-55.

192. Robinson’s FIG. 9, reproduced below, is an illustration of “Persistent Client-enabled desktop” with a persistent client window 912. “As shown in FIG. 9,

a portion 916 of the persistent client desktop environment 910 is allocated for the positioning of 2D or 3D advertisements, pictures, promotions, or messages.” *Id.*, 15:11-14.



193. For another example, Robinson disclose “Use of Avatars in the 3D User Interface Environment.” *Id.*, 16:61. But again, this disclosure is directed at “enabl[ing] users to interact fully, intuitively and far more easily ‘in’ a spatial 3D environment,” (*Id.*, 1:55-57), with the spatial 3D environment being an advertisement.

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. The user can then virtually walk around that advertisement, meet other virtual users who have entered into the collaborative VR advertisement in the same way from their own computer desktops. The virtual users can converse with each other about the content of the advertisement. This virtual conversation can be implemented by capturing conversational input typed or spoken into the computer system of each participating user in the virtual space.

Id., 15:48-60.

194. Therefore, Robinson’s disclosure of avatars in the “present invention enables a next generation in online/desktop interfaces. The 3D user interface of the present invention can be augmented to use specially designed avatars as a vehicle for advertisement delivery.” *Id.*, 16:66-17:3.

195. Referring to Robinson’s FIG. 4, reproduced above, Robinson illustrates “a user 410 access[ing] [] a networked e-commerce website 420” to purchase software. *Id.*, 9:66-10:3. Via utilizing Robinson’s invention, “the user 410[’s] access and request for purchase to e-commerce client 420 causes the e-commerce client 420 software to make an access to a 3D engine and e-commerce front end store front [sic] 430 on e-commerce client website 420.” *Id.*, 10:7-12.

196. Robinson explains that this “3D engine and e-commerce front end 430 processes the user 410 order and downloads the requested or purchased software to

the user's client machine 460." *Id.*, 10:15-18. Specifically, "the 3D engine and e-commerce front end 430 may append a persistent 3D environment client kernel 465 to the software requested or purchased by user 410," (*Id.*, 10:20-23), such that "[w]hen user 410 installs the downloaded software on client machine 460, the persistent 3D kernel is automatically installed on the user's desktop environment at client machine 460." *Id.*, 10:26-29.

197. Robinson discloses that "[f]ollowing the downloading of the requested or purchased software with the appended 3D environment Persistent Client kernel 465, e-commerce engine component 440 automatically notifies the 3D environment server 450 via interface 441." *Id.*, 10:29-33. Notably, Robinson provides that the communication between the component 440 and the 3D environment server 450 is required for "delivery of advertisement or messages" to the "3D Persistent Client kernel 465."

Upon automatic installation of the 3D Persistent Client kernel 465, the user is given a demonstration of the 3D environment software and given the choice to activate a full three-dimensional computing environment on the user's desktop at client machine 460. If the user 410 chooses not to activate the 3D computing environment, the 3D environment Persistent Client 465 nevertheless remains active in an unobtrusive two-dimensional persistent window on the user's desktop for the **delivery of advertisement or messages** to the user's desktop. As such,

the present invention provides **a persistent presence on the user's desktop for the placement of advertising, messages,** or the gathering of information about the user for the benefit of the e-commerce engine 440 with which the present invention has been connected.

Id., 10:36-50.

198. Given this disclosure, and my analysis in Paragraphs 195-197, a POSITA reading Robinson would understand that Robinson's "persistent 3D environment client kernel 465" is not a stand-alone software—it is merely an add-on "append[ed]" to "the software requested or purchased by user 410." *Id.*, 10:21-23.

199. Furthermore, a POSITA would understand that Robinson's "persistent 3D environment client kernel 465" has "a persistent presence on the user's desktop for the placement of advertising [and] messages[.]" This means that the user has no control over Robinson's kernel 465. *See id.*, 10:36-50. The user cannot shut it off, nor can the user initiate it. It is always on the user's desktop—though in an unobtrusive manner.

200. Additionally, a POSITA would understand that "a demonstration of the 3D environment software," (*Id.*, 10:38-30), is displayed to the user upon installation of the requested software to which Robinson's kernel 465 is appended. Upon seeing the demonstration, the user 410 can decide whether to "choose[] [] to activate the

3D computing environment.” *Id.*, 10:41-42. If the user chooses to activate the 3D computing environment, the user’s desktop turns into a 3D desktop. But “[i]f the user 410 chooses not to activate the 3D computing environment,” (*Id.*), the user’s desktop will remain a conventional 2D desktop and “the 3D environment Persistent Client 465 [] remains active in an unobtrusive two-dimensional persistent window on the user’s desktop.” *Id.*, 10:42-45.

201. A POSITA would understand that Robinson’s “demonstration of the 3D environment software,” (*Id.*, 10:38-30), is no more than a typical marketing tool that aims to provide the user 410 with a clear understanding of the benefit of the 3D desktop. Essentially, this demonstration refers to multimedia or illustrative materials created with the purpose of showcasing and highlighting the key features, benefits, and uses of the 3D desktop. Upon viewing the demonstration, the user 410 may choose to activate the 3D desktop feature. Thus, the word “activate” here means a process of acquiring (possibly through further downloads) and installing the 3D environment software for turning the user’s 2D desktop into a 3D desktop.

b. Robinson’s Lone Reference to Online Games

202. Petitioner and Mr. Crane repeatedly claim that Robinson teaches a locally executed game application. The Petition and Mr. Crane’s declaration contain

several instances where this claim was made, although it is my opinion that Petitioner's position on this claim is self-inconsistent as explained below.

203. Petitioner states that Robinson's "3D computing environment can be a locally executed game application." Pet. 46. I disagree—for the reasons explained in Paragraphs 181-188, Robinson's 3D computing environment is a 3D virtual interface and not a game application.

204. Petitioner also states that Robinson's "3D persistent client kernel 465 can support a game application in a 3D computing desktop environment." Pet. 47. I disagree—for reasons explained in Paragraphs 195-199, Robinson's 3D persistent client kernel 465 is not a stand-alone application, and its purpose is advertisement and message delivery to the user—not supporting a game application.

205. Mr. Crane states that Robinson "describes that its 3D computing environment can serve existing online communities such as online games (Ex. 1008, 9:29-37), and can support real-time avatars (id.) - an element in common use in online games." Ex. 1004, ¶173. Mr. Crane relies on the following excerpt from Robinson to make this conclusion:

The network-enabled 3D computing environment of the present invention has several extensions, including: the introduction of real-time avatars. Avatars are virtual representations of users, allowing them to interact with other users across a network. The ability to create an

interactive online community is very powerful. Such a utility would allow for intra- and inter-company meetings, the extension of the online communities which exist today, virtual concerts, online games, etc. Other uses of avatars with the present invention are described herein in a subsequent section.

Companies such as id Software (the makers of Quake), Blizzard North (the makers of Diablo), and others have explored limited avatar use with startling results. The Diablo server had, at one point, over 320,000 simultaneous connections. The present invention can be used with this conventional technology to create a population of network-enabled 3D computing systems, with people interacting in virtual cafes, offices, showrooms, etc. The network-enabled 3D computing environment allows for the creation of a cyberspace experience previously only available in science fiction.

Id., 9:29-50.

206. I disagree with Mr. Crane's characterization of this excerpt. This excerpt lists possible "uses of avatars" and specifically "real-time avatars" as "virtual representations of users." *Id.* Robinson merely states that "real-time avatars" may be used to "create an interactive online community," such as "intra- and inter-company meetings, the extension of the online communities which exist today, virtual concerts, [and] online games." *Id.* This is aligned with Robinson's disclosure of a 3D desktop and its overarching purpose of "enabl[ing] users to interact fully, intuitively and far more easily 'in' a spatial 3D environment." *Id.*, 1:55-57.

Therefore, in this excerpt, Robinson merely states that “real-time avatars”—when used in conjunction with Robinson’s 3D desktop—“enable[] users to interact fully, intuitively and far more easily ‘in’ a spatial 3D environment.” *Id.* And as examples of “a spatial 3D environment,” Robinson lists “intra- and inter-company meetings, the extension of the online communities which exist today, virtual concerts, [and] online games.” *Id.*, 9:29-50.

207. Based on the “startling results” reported by game companies that used avatars in a limited manner in their games, Robinson concludes that playing these games on a 3D desktop of “[t]he present invention” would “create a population of network-enabled 3D computing systems, allow[ing] for the creation of a cyberspace experience previously only available in science fiction.” *Id.* Accordingly, it is my opinion that a POSITA reading this excerpt would understand no more than Robinson merely describing the advantage of playing an avatar-based game on a 3D desktop.

208. In my opinion, a POSITA would not understand from this excerpt how to create a game application into which business-related content can be integrated from external websites. Nor does this excerpt inform a POSITA how a player of a game application can be re-directed to an external website as part of the game play. In sum, in view of Robinson’s subject matter and the plain language of the excerpt

relied on by Mr. Crane, it is my opinion that Robinson does not enable a POSITA to arrive at the '028 claims.

*c. Petitioner's limitation-by-limitation analysis of
Challenged Claims*

209. Regarding **limitations 1[a]**, a POSITA would understand that Robinson does not teach or suggest “a locally executed game application that is accessible at said primary electronic device.”

210. As discussed in Paragraphs 33-49, the content of which I incorporate herein, Claim 1 requires that the game application be locally executed and be accessible at the user's device.

211. However, as I explained in Paragraphs 202-210, the content of which I incorporate herein, Robinson does not teach a game application, let alone one that is locally executed and is accessible at the user's device. Further, for the reasons discussed in Paragraphs 203 and 204, neither Robinson's “3D computing environment” nor its “3D persistent client kernel 465” that Petitioner relies on are game applications. For this reason alone, Angles does not render obvious Claim 1.

212. Regarding **limitation 1[b]**, a POSITA would understand that Robinson does not teach or suggest “initiating said game application at said primary electronic device.”

213. As I explained in Paragraphs 202-210, the content of which I incorporate herein, Robinson does not teach a game application, let alone one that is initiated at the user's device. Further, for the reasons discussed in Paragraphs 200-201, Robinson's "demonstration of the 3D environment software" that Petitioner relies on does not constitute initiating a game application. For these additional reasons, Robinson does not render obvious Claim 1.

214. Regarding **limitation 1[c]**, a POSITA would understand that Robinson does not teach or suggest "automatically integrating business-related content ... into said locally executed game application during execution of said game application."

215. As discussed in Paragraphs 50-53, the content of which I incorporate herein, Claim 1 requires that the integration occurs "during execution of said game application." Further as explained in those paragraphs, a POSITA would understand that this integration must necessarily occur while the locally executed game is running on the user's device.

216. However, as I explained in Paragraphs 202-210, the content of which I incorporate herein, Robinson does not teach a game application, let alone one that is initiated at the user's device. Further, Petitioner relies on Robinson's "display of [] advertisement" "in the Persistent Client Window." Pet. 48. However, a POSITA would understand that displaying an advertisement on the Persistent Client Window

on a 3D desktop is not the same as integration into a game application. For these additional reasons, Robinson does not render obvious Claim 1.

217. Regarding **limitation 1[d]**, a POSITA would understand that Robinson does not teach “automatically re-directing said user to one of said web pages of said secondary electronic device ..., said re-direction being integrated into said game application and said re-direction occurring as part of the user executing said game application.”

218. As discussed in Paragraphs 54-58, the content of which I incorporate herein, Claim 1 requires that the claimed re-direction occurs automatically and not manually, the re-direction be integrated into the game play, and the software code responsible for the re-direction be part of the game software being run on the user’s device.

219. However, as I explained in Paragraphs 202-210 the content of which I incorporate herein, Robinson does not teach a game application, let alone one that is initiated at the user’s device. Further, for this limitation, Petitioner draws from Robinson’s disclosures of “click[ing] on a link embedded in the advertisement presented in the Persistent Client Window,” and the “drag and drop [of] an advertisement to a region of the persistent client desktop environment 910 for re-directing to an external website.” Pet. 50-51. As discussed above in Paragraphs 54-

58, these actions are manual, requiring a click on the mouse. Further, they are not integrated into a game play for there is no disclosure of a game in Robinson. For these additional reasons, Robinson does not render obvious Claim 1.

220. Regarding **Claim 3**, a POSITA would understand that Robinson does not teach the term “game application displays branded business-related content to said user.” As discussed in Paragraphs 209-219, Robinson does not render obvious Claim 1. For this reason alone, Robinson does not render obvious Claim 3 depending from Claim 1.

221. Regarding **Claim 4**, a POSITA would understand that Robinson does not teach “said branded business-related content is dynamically updated.”

222. As discussed in Paragraph 220, Robinson does not render obvious Claim 3. For this reason alone, Robinson does not render obvious Claim 4 depending from Claim 3.

223. For the reasons discussed in Paragraphs 63-69 the content of which I incorporate herein, Claim 4 requires that the very same branded business-related content displayed by the game application be dynamically updated. This necessarily requires that the game application updates the branded business-related content displayed.

224. Petitioner draws from Robinson’s disclosure that “[t]he computer will periodically display a different advertisement or message within the Persistent Client Window a new advertisement.” Pet. 53-54. However, as discussed above in Paragraphs 63-69, sending a new advertisement is not the same as updating the branded content that was already displayed to the consumer. For this additional reason, Robinson does not render obvious Claim 4.

225. Regarding **Claim 5**, as discussed in Paragraphs 209-219, Robinson does not render obvious Claim 1. For this reason alone, Robinson does not render obvious Claim 5 depending from Claim 1.

226. Further, regarding **limitation 5[a]**, a POSITA would understand that Robinson does not teach “executing game-related user actions *in said game application* as a result of user choices.”

227. As discussed in Paragraph 70-74 above the content of which I incorporate herein, Claim 5 requires that the claimed user actions be game-related and that these actions be outward manifestations of user choices that are being executed in the game. Furthermore, a POSITA would readily recognize that the game-related user actions must necessarily be from user actions on business-related content of limitation 1[e].

228. However, since Robinson does not disclose a game application, there is no game-related actions to be executed in the game application. For this additional reason, Robinson does not render obvious Claim 5.

229. Further, regarding **limitation 5[b]**, a POSITA would understand that Robinson does not teach “generating a player profile based on said user choices made during said game application.”

230. As I discussed in Paragraphs 75-77 content of which I incorporate herein, the claimed profile is not an actual profile of the person playing the game, it is a profile that ties to the *character* representing the player in the game. It is a player profile, not a user profile that uniquely identifies the user. Furthermore, this profile is generated based on the game play and user choices during the game.

231. However, Robinson’s profile cannot be a player profile, because Robinson does not disclose a game application as extensively discussed. Further, Petitioner draws from Robinson’s disclosures of “track[ing] user “interactions in the 3D environment” and “profiling user preferences.” Pet. 54-55. But Robinson’s profile, much like Angles’s profile, is tied to the user itself. Thus, for the same reasons discussed regarding Angles’s profiles, Robinson does not teach a player profile. For this additional reason, Robinson does not render obvious Claim 5.

232. Regarding **Claim 6**, a POSITA would understand that Robinson does not teach “said player profile is disseminated to providers of business-related content used in said game application.”

233. As discussed in Paragraphs 225-231, Robinson does not render obvious Claim 5. For this reason alone, Robinson does not render obvious Claim 6 depending from Claim 5.

234. Further, for the reasons discussed in Paragraphs 74-78 the content of which I incorporate herein, the player profile in Claim 6 must be held at the user’s device and must be sent out to providers of business-related content.

235. However, besides the fact that Robinson does not teach a player profile, the sections of Robinson’s disclosure that Petitioner relies on do not teach this limitation. Petitioner draws from “target advertising” portion of Robinson to state that a POSITA “would understand that, for an e-community database provider to employ information for the purpose of targeted marketing, said profile information must necessarily be disseminated to providers of business-related content.” Pet. 56. But Robinson specifically states that its user profiles never leave “3D server,” and instead “e-commerce clients” sign into the server through an “interface” to access the user profiles. See Ex. 1008, 10:55-60. As discussed in Paragraphs 81-84, a system like Robinson would be significantly different from the invention claimed in

Claim 6, particularly when in the '028 Patent a player profile is stored on the user's device not on a server. For this additional reason, Robinson does not render obvious Claim 6.

236. Regarding **limitation 7[b]**, a POSITA would understand that Robinson does not teach “initiating said at least one of said plurality of applications at said primary electronic device.” As discussed in Paragraphs 85-88, a POSITA would understand that the term “application” in Claim 7 means “game application.” Therefore, since this limitation encompasses the same scope and meaning as limitation 1[b], and Petitioner presents no new argument beyond what it raises for limitation 1[b], I incorporate herein my reasoning and analysis provided in Paragraphs 212-213 for limitation 1[b]. For this reason alone, Robinson does not render obvious Claim 7.

237. Regarding **limitation 7[d]**, a POSITA would understand that Robinson does not teach “automatically integrating said content from said secondary electronic device into said at least one of said plurality of locally executed applications during execution of said at least one of said plurality of applications.” As discussed in Paragraphs 85-88, a POSITA would understand that the term “application” in Claim 7 means “game application.” Therefore, since this limitation encompasses the same scope and meaning as limitation 1[c], and Petitioner presents no new argument

beyond what it raises for limitation 1[c], I incorporate herein my reasoning and analysis provided in Paragraphs 214-216 for limitation 1[c]. For this additional reason, Robinson does not render obvious Claim 7.

238. Regarding **limitation 7[e]**, a POSITA would understand that Robinson does not teach “automatically re-directing said user to one of said customized web pages at said secondary electronic device, from said primary electronic device, said re-direction being integrated into said one of said plurality of applications and said re-direction occurring as part of the user executing said one of said plurality of applications.” As discussed in Paragraphs 85-88, a POSITA would understand that the term “application” in Claim 7 means “game application.” Therefore, since this limitation encompasses the same scope and meaning as limitation 1[d], and Petitioner presents no new argument beyond what it raises for limitation 1[d], I incorporate herein my reasoning and analysis provided in Paragraphs 217-219 for limitation 1[d]. For this additional reason, Robinson does not render obvious Claim 7.

239. Regarding **Claims 8 and 9**, as discussed in Paragraphs 236-238, Robinson does not render obvious Claim 7. For this reason alone, Robinson does not render obvious Claims 8 and 9 depending from Claim 7.

C. Ground 3: Angles, Robinson, and Ginter in view of the knowledge of a POSITA

1. *Background On Asserted References*

240. I incorporate herein the entirety of my analysis of Angles in Section A.

241. I incorporate herein the entirety of my analysis of Robinson in Section B.

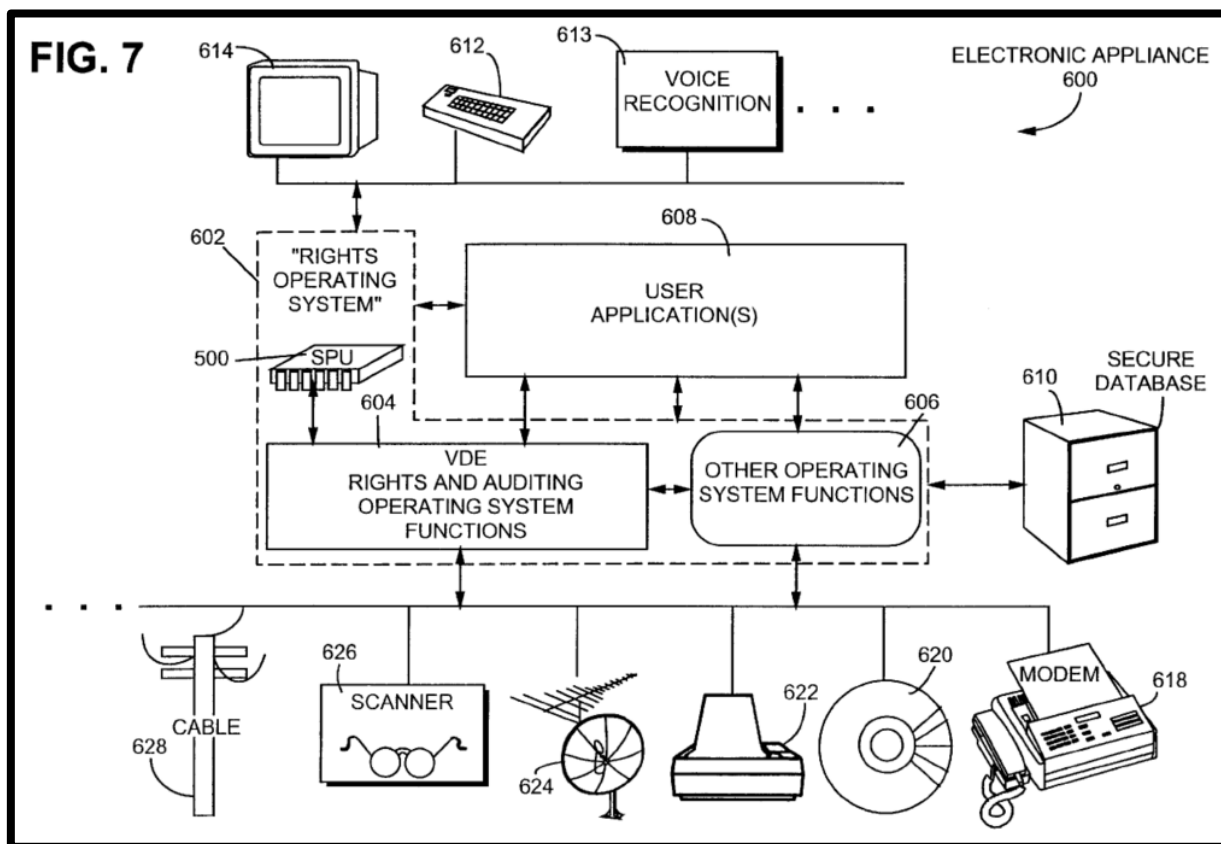
242. Ginter is a U.S. Patent titled “Systems and methods for secure transaction management and electronic rights protection.” Ex. 1009, p. 1.

243. Ginter is an electronic security patent and generally teaches “systems and techniques for secure transaction management.” It also relates to “protecting rights of various participants in electronic commerce and other electronic or electronically-facilitated transactions.” *Id.*, 1:12-23.

a. *Ginter’s Scope and Content from a POSITA’s Perspective*

244. Ginter discloses a “virtual distribution environment” or VDE, which is a system that “secures, administers, and audits electronic information use.” The purpose of this VDE is to protect the rights of “content creators and distributors, financial service providers, end-users, and others.” *Id.*, 2:22-35. The VDE can be implemented as either hardware or software, and provides “widely varying secure control and administration capabilities for content including “displaying, encrypting, decrypting, printing, copying, saving, extracting, embedding, distributing, auditing usage, etc.” *Id.*, 9:10-23.

245. The embodiment shown in Fig. 7 is an electronic appliance 600 that “may be practically any kind of electrical or electronic device.” The device implements a VDE by including a “rights operating system” 602 that works in conjunction with User Application(s) 608. Application(s) 608 is hardware and/or software specific to the context of appliance 600. *Id.*, 60:13-61:34.



246. The Rights Operating System 602 has a primary objective of providing a “rights protection environment.” *Id.*, 6:45-49. The parties receiving this protection are “content providers, electronic hardware manufacturers, financial service providers, or electronic “infrastructure” companies such as cable or

telecommunications companies.” *Id.*, 6:34-39. The System as such “may enforce fulfillment of the obligations, of electronic information users and providers” between users and providers of content to “accommodate many requirements of electronic commerce.” *Id.*, 6:46-52. The top two of these requirements as listed are i) “the distribution of permissions to use electronic information;” and ii) “the persistence of the control information and sets of control information managing these permissions.” *Id.*, 6:58-63.

247. It is therefore my opinion that the primary scope of Ginter is to protect content that has commercial value, in the furtherance of commerce, that has been produced by one of the parties as listed above. If Ginter has any relation to a game application, it would merely be to protect a game developer from theft of the game, which is far outside the scope of the ‘028 patent.

248. With reference to whether Ginter discloses anything resembling a user’s profile related to a game application, I think Ginter misses the mark here as well. There are several references to “profile” with Ginter: “usage can be metered while an additional audit for user profile purposes can be prepared,” (*Id.* 42:64-66), “a profile of a consumer’s credit worthiness,” (*Id.* 55:12-13), “information to build an account profile for author,” (*Id.* 284:12-13), “credit related activities, and/or for user profile analysis.” (*Id.* 36:30-31). However, each of these examples refers to a profile

concerning a very specific business-related purpose, and has nothing to do with the playing of a game.

249. With regard to Petitioner proposing that Ginter discloses the dissemination of a player profile, in my opinion a PHOSITA would disagree. Petitioner combines the phrase “disseminated information” from Ginter’s abstract with the “user profile” from Ex. 1009, 36:10-43 to try to show that Ginter discloses “disseminated to providers of business-related content used in said game application.” Pet., 64. This is ineffective for several reasons, but mostly because the cited user profile is explicitly *not disseminated*.

250. The cited embodiment (Ex. 1009, 36:10-43) states that a “financial clearinghouse normally receives at its location securely delivered content usage information, and user requests (such as requests for further credit, electronic currency, and/or higher credit limit).” *Id.* 36:24-28. So, the clearinghouse receives “content usage information and user requests.”

251. Next, Ginter states that the “usage information and user requests can be used for [...] user profile analysis and/or broader market survey analysis and marketing (consolidated) list generation or other information derived, at least in part, from said usage information.” *Id.* 36:28-34 (emphasis added). And, “[t]his information can be provided to content providers or other parties, through secure,

authenticated encrypted communication to the VDE installation secure subsystems.”
Id. 36:35-38. Therefore, Ginter discloses receiving “usage information and user requests,” using that information for “user profile *analysis*” and other analysis, and providing it to content providers. *But*, the information “provided to content providers or other parties” is the *analysis* of the user profile, *not the user profile itself*. Thus, a PHOSITA would readily see that Ginter does not yield *any* profile being disseminated, let alone a player profile from a game application.

252. Moreover, in addition to the reasoning presented above, I think a PHOSITA would not be motivated to combine the Angles, Robinson, and Ginter references. As discussed, Angles and Robinson do not disclose ideas that would be used together, and this applies to Ginter too.

253. One objective indicator to emphasize the unlikeliness of a PHOSITA combining these three references is the analysis of class codes. Class codes are used to identify what area of technology a given patent covers. When looking at the primary class codes for Angles, Robinson, and Ginter, there is a wide disparity between them, as shown in the table below, especially for Ginter.

	Angles	Robinson	Ginter
International Codes	G06F 17/30	G06F 15/00	H04L 9/32
U.S. Codes	705/14	715/848	380/4

254. Note that none of the class codes for any of the references are the same. For example, Angles's international code is G06F 17/30, which pertains to "Information retrieval; Database structures³"; Robinson's international code is G06F 15/00, which pertains to "Digital computers in general, Data Processing equipment in general⁴"; and Ginter's international code is H04L 9/32, which pertains to "Arrangements for secret or secure communications; Network security protocols, including means for verifying the identity or authority of a user of the system⁵."

255. In reviewing the US Class codes, a similar result emerges. Angles's primary US code is 705/14, which generally relates to "DATA PROCESSING: FINANCIAL, BUSINESS PRACTICE, MANAGEMENT, OR COST/PRICE DETERMINATION." Robinson's primary US code is 715/848, which generally relates to "DATA PROCESSING: PRESENTATION PROCESSING OF DOCUMENT, OPERATOR INTERFACE PROCESSING, AND SCREEN

³ <https://onscope.com/ipowner/en/ipcHoldings.html?code=G06F%2017/30>

⁴ <https://ipcpub.wipo.int/?notion=scheme&version=20240101&symbol=G06F0017400000&menulang=en&lang=en&viewmode=f&fipcpc=no&showdeleted=yes&indexes=no&headings=yes¬es=yes&direction=o2n&initial=A&cwid=none&tree=no&searchmode=smart>

⁵ <https://ipcpub.wipo.int/?notion=scheme&version=20240101&symbol=H04L&menulang=en&lang=en&viewmode=f&fipcpc=no&showdeleted=yes&indexes=no&headings=yes¬es=yes&direction=o2n&initial=A&cwid=none&tree=no&searchmode=smart>

SAVER DISPLAY PROCESSING,” and Ginter’s primary US code 380/4 relates generally to “CRYPTOGRAPHY⁶.” Thus, given these varying technology areas, it is unlikely that a PHOSITA would have been motivated to combine them.

VIII. UNDERSTANDING OF PATENT LAW

256. I have been advised by counsel of the following legal standards, which I have applied to my analysis.

257. I understand that “prior art” to the ‘028 Patent would include material patents and printed publications in the relevant art that predate the priority date of the inventions recited in the ‘028 patent. I understand that the earliest claimed priority date for the ‘028 Patent is October 16, 2002.

258. I understand that a claim is invalid if it is made obvious by prior art. Obviousness requires that the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.

259. I understand that one should not look at the invention knowing what persons of ordinary skill in the art know today. Rather, you must place yourself in

⁶ <https://www.uspto.gov/web/patents/classification/selectnumwithtitle.htm>.

the shoes of a POSITA in the field of the technology of the patent at the time of the filing of the patent application.

260. I understand that to determine if the steps of a method claim that do not otherwise recite an order, must nonetheless be performed in the order in which they are written, one first looks to the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written. If not, one next looks to the rest of the specification to determine whether it directly or implicitly requires such a narrow construction.

261. I understand that a “dependent” claim incorporates all of the limitations of the claim upon which it depends.

262. I understand that the terms set forth in the patent claims in an IPR are given their broadest reasonable interpretation in light of the specification as it would be interpreted by one of ordinary skill in the art.

263. I further understand that in an *inter partes* review a petitioner carries the burden of proof of showing unpatentability by a preponderance of the evidence.

Dated: March 18, 2024

Respectfully submitted,

Nenad Medvidovic

Dr. Nenad Medvidović