

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PLR WORLDWIDE SALES LIMITED,
Petitioner

v.

FLIP PHONE GAMES INC.
Patent Owner

U.S. Patent No. 11,117,056
Inter Partes Review No. 2024-00200

DECLARATION OF JOSÉ ZAGAL, PH.D.

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EXHIBIT LIST

No.	Short Name	Exhibit
1001	'056 Patent	U.S. Patent No. 11,117,056
1002	'056 File History	Prosecution history for U.S. Patent No. 11,117,056
1003		Declaration of Dr. José Zagal
1004		<i>Curriculum Vitae</i> of Dr. José Zagal
1005	Hays	U.S. Patent Pub. No. 2008/0102947
1006	Choi	U.S. Patent Pub. No. 2007/0174490
1007	Chu	U.S. Patent No. 7,698,178
1008	Levkovitz	U.S. Patent Pub. No. 2007/0088801
1009	FPG Infringement Charts	Exemplary infringement charts for U.S. Patent No. 11,117,056 served by Patent Owner in <i>Flip Phone Games Inc. v. PLR Worldwide Sales Ltd.</i> , No. 2:23-cv-139 (E.D. Tex.)
1010	History of Video Games	Steven Kent, <i>The Ultimate History of Video Games</i> (2001)
1011	Encyclopedia of Digital Communications	Frans Mayra, "Mobile Games," in <i>the International Encyclopedia of Digital Communications and Society</i> , 1 st ed. (2015)
1012	Wireless Gaming	N. Leavitt, "Will wireless gaming be a winner?" in <i>Computer</i> , Vol. 36, No. 1, pp. 24-27 (Jan. 2003)
1013	ACM	Jason Soh & Bernard Tan, "Mobile Gaming," in <i>Communications of the ACM</i> , Vol. 51, No. 3, pp. 35-39 (Mar. 2008)

No.	Short Name	Exhibit
1014	IEEE Computer Graphics	Michael Zyda <i>et al.</i> , “Educating the Next Generation of Mobile Game Developers,” in <i>IEEE Computer Graphics and Applications</i> , Vol. 27, No. 2, pp. 92-96 (Mar./Apr. 2007)
1015	Productive Play	Mark Andrejevic, “Productive Play 2.0: The Logic of In-Game Advertising” in <i>Media International Australia</i> , Vol. 130, No. 1, pp. 66-76 (Feb. 2009)
1016	Vedrashko Thesis	Ilya Vedrashko, <i>Advertising in Computer Games</i> (Doc. No. 123290221) [Master’s Thesis, Mass. Inst. of Technology], DSpace@MIT
1017	Exit Games Press Release	Exit Games, <i>In-Game Advertising Goes Mobile</i> [Press Release] (Mar. 21, 2006)
1018	Partanen	Jussi-Pekka Partanen, <i>Mobile Gaming: A Framework for Evaluating the Industry 2000-2005</i> (2001)

I, José P. Zagal, Ph.D., declare as follows:

I. INTRODUCTION

1. I have been retained by Quinn Emanuel Urquhart & Sullivan on behalf of PLR Worldwide Sales Ltd. (“Playrix” or “Petitioner”). I understand that Playrix is the petitioner in an *inter partes* review (“IPR”) of U.S. Patent No. 11,117,056 (the “’056 Patent”) (Ex. 1001) before the Patent Trial and Appeal Board (“PTAB” or “Board”). I understand the ’056 Patent is assigned to Patent Owner Flip Phone Games, Inc. (“Patent Owner”).

2. I have been asked to provide my independent analysis of the ’056 Patent in light of the materials cited in this declaration and my knowledge and experience in the field of video games and game design during the relevant period. I have been asked to consider what a person of ordinary skill in the art as of the priority date of the ’056 Patent would have understood from the teachings of the ’056 Patent, including scientific and technical knowledge related to the ’056 Patent. I have also been asked to consider whether the references relied on by Playrix render obvious claims 1-16 of the ’056 Patent. All the opinions set forth in this declaration are my own.

II. BACKGROUND AND QUALIFICATIONS

3. I earned a Bachelor of Engineering Sciences degree from Pontificia Universidad Catolica de Chile in 1997. I obtained my title of Civil Industrial Engineer with a Computer Science Diploma and my Master's degree in Engineering Science from Pontificia Universidad Catolica de Chile in 1999. I obtained my Ph.D. in Computer Science from Georgia Institute of Technology in 2008.

4. I currently hold the position of Professor (Lecturing) in the Division of Games at the University of Utah. I have been employed by the University of Utah since 2013 and was employed as an Assistant Professor for the College of Computing and Digital Media at DePaul University from 2008 to 2015. I have spent more than two decades teaching, researching, or working in the field of gaming and computer science.

5. My research for more than 20 years has focused generally on gaming, electronic media, and computer science. I have authored four books: *Game Design Snacks* (as editor), *Role-Playing Games Studies: Transmedia Foundations* (as editor, with Dr. Sebastian Deterding), *The Videogames Ethics Reader* (as editor), and *Ludoliteracy: Defining, Understanding, and Supporting Games Education*. I have also authored numerous peer-reviewed articles related to gaming and electronic media, and I regularly speak at both academic and game industry events such as the Game Developers Conference.

6. I have knowledge and experience in the area of mobile games and online games through my academic research, teaching activities, as well as the activities of students here at the University of Utah. My very first academic publication from over 20 years ago proposed a model to support the design of multiplayer games¹ at a time when multiplayer videogames were much rarer than they are nowadays. Since then, among other things, I have examined collaborative gameplay and the ethical considerations surrounding competition in multiplayer games. Mobile games and multiplayer games are also regular areas of discussion and analysis in the game design and ethics in videogame classes I teach at both the undergraduate and graduate levels (e.g. Introduction to Game Design, Mobile Game Design, Ethics in Games, etc.). For example, I designed and teach an undergraduate class on mobile game design that is offered as an elective in the BS in Games degree offered at the University of Utah. Mobile games are covered in most of the other courses I teach on games and game design.

7. Also, I have professional experience in the area of online communities and social websites. From 2000 to 2002, I was the Director of Content and Community Development at Virtualia S.A. Virtualia was a Chilean company that

¹ Zagal, J.P., Nussbaum, M., Rosas, R. (2000) “A Model to Support the Design of Multiplayer Games”, Presence, Vol. 9, No. 5, October 2000, 448-462.

created and developed an online community of the same name. The site included many social features including chat, message boards, and more. One of its more unique features was its own virtual currency that users could spend to obtain virtual as well as real-world items. Furthermore, during the summer months from 2005 to 2007, I served as Director of Community Development for Studiocom, a full-service interactive media agency that designed and developed custom online communities for commercial clients such as Coca-Cola (CokeStudios, MyCoke) and Mattel (BarbieGirls.com).

8. My past experience as an expert witness includes in support of the plaintiff in *Segan LLC v Zynga Inc.* (United States District Court for the Northern District of California, Case No. 3:14-cv-01315-CV) concerning U.S. Patent No. 7,954,928, in support of the plaintiff in *Catherine Alexander v. Take Two Interactive Software Inc. et al.* (United States District Court for the Southern District of Illinois, Case No. 3:18-cv-0966-MJR-DGW) concerning copyright infringement, in support of the defendant in *Ragnarok Game, LLC and ESDFOS, LLC v. Nine Realms, Inc. dba Human Head, et al.* (Superior Court for the State of California, County of Los Angeles, Central District, Case No. 19STCV43434), and in support of the plaintiff in *Skillz Platform Inc. v. AviaGames Inc.* (United States District Court for the Northern District of California, Case No. 5:21-cv-02436) concerning U.S. Patent No. 9,649,564. I have also been retained as an expert witness for the defendant in

GREE, Inc. v. Supercell Oy (United States District Court for the Eastern District of Texas, Case Nos. 2:19-cv-00070, -161, -172, -311). I have also submitted expert declarations in support of petitions for post-grant and *inter partes* review in the following cases: *Supercell Oy v. GREE, Inc.*, IPR2020-00893, IPR2020-00513, IPR2020-00310, IPR2020-00215, IPR2020-00993, PGR2021-00041, and PGR-2021-00034.

9. My professional background and technical qualifications also are reflected in my Curriculum Vitae, which is attached as Exhibit 1004.

III. COMPENSATION AND RELATIONSHIP WITH PARTIES

10. I am being compensated for my time. This compensation is not contingent upon my performance, the outcome of this matter, or any issues involved in or related to this matter.

11. I have no financial interest in Petitioner or any related parties. I have been informed that Flip Phone Games, Inc. owns the '056 Patent. I have no financial interest in and have no contact with Flip Phone Games, Inc. I similarly have no financial interest in the '056 Patent and have not had any contact with the named inventor.

IV. MATERIALS REVIEWED AND CONSIDERED

12. I have reviewed and considered, in the preparation of this declaration, the '056 Patent (Ex. 1001) and relevant portions of the prosecution file history for

the '056 Patent (Ex. 1002). I have also reviewed and considered the documents listed in the Exhibit List of this declaration, including the prior art I opine on in this declaration. I have also relied upon my education and experience in the relevant field of the art, and have considered the viewpoint of a POSITA as of the priority date of the '056 Patent.

V. UNDERSTANDING OF THE RELEVANT LEGAL STANDARDS

A. The Person of Ordinary Skill in the Art

13. I understand that central to the process of understanding the disclosures in a patent and assessing the validity of a patent is the notion of a person of ordinary skill in the art, sometimes referred to as a “POSITA.”

14. I have been informed that a person having ordinary skill in the art is a hypothetical person who is used to analyze the prior art without the benefit of hindsight. Such a person is presumed to be one who thinks along the lines of conventional wisdom in the art. It is my understanding that factors such as the education level of those working in the field, the sophistication of the technology, the types of problems encountered in the art, the prior art solutions to those problems, and the speed at which innovations are made may help establish the level of skill in the art.

15. I have been informed that the hypothetical person of ordinary skill is presumed to have knowledge of all references that are sufficiently related to one

another and to the pertinent art, and to have knowledge of all arts reasonably pertinent to the particular problem that the claimed invention addresses.

B. Claim Construction

16. I have been informed that “[i]n an *inter partes* review proceeding, a claim of a patent . . . shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b).

17. I understand that there are certain exceptions to the general rule of construing claims in accordance with their ordinary and customary meaning, including lexicography and disavowal, but I have not been asked to analyze those exceptions for the purposes of this declaration.

C. Anticipation

18. I understand that to anticipate a claim, each and every element in the claim must be present in a single item of prior art. I understand that anticipation must be found in a single reference, device, or process. In other words, anticipation does not allow an additional reference to supply a missing claim limitation.

19. In determining whether every one of the elements of the claimed invention is found in the prior art, I understand that one should take into account

what a person of ordinary skill in the art would have understood from his or her examination of the particular prior art.

20. I understand that an element may be inherent within a prior art reference, and therefore disclosed for purposes of anticipation. In order to rely on inherency, however, one must demonstrate that the element is necessarily present in the prior art reference, not merely likely or possibly present.

21. I also understand that the prior art reference alleged to be anticipatory must also enable one of ordinary skill in the art to make the claimed invention without undue experimentation. I understand there is a rebuttable presumption that prior art patents are enabled.

22. I understand that any differences between a prior art reference and a claimed invention invoke the question of obviousness, not anticipation.

D. Obviousness

23. I understand that a patent claim is also unpatentable if the claimed invention would have been obvious to a person of ordinary skill in the field at the time the claimed invention was made. This means that even if all of the requirements of the claim cannot be found in a single prior art reference that would anticipate the claim, a person of ordinary skill in the relevant field who knew about all this prior art would have come up with the claimed invention.

24. I understand an obviousness determination can be based on a single prior art reference or a combination of multiple prior art references and the knowledge of a POSITA.

25. I further understand that the ultimate conclusion of whether a claim is obvious should be based upon several factual determinations. That is, a determination of obviousness requires inquiries into: (1) the level of ordinary skill in the field; (2) the scope and content of the prior art; (3) what difference, if any, existed between the claimed invention and the prior art; and (4) any secondary evidence bearing on obviousness.

26. I further understand that, in determining the scope and content of the prior art, in order to be considered as prior art, a reference must be reasonably related to the claimed invention of the patent. A reference is reasonably related if it is in the same field as the claimed invention or is from another field to which a person of ordinary skill in the field would look to solve a known problem.

27. I understand that a patent claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was independently known in the prior art. In evaluating whether such a claim would have been obvious, I may consider whether there is a reason that would have prompted a person of ordinary skill in the field to combine the elements or concepts from the prior art in the same way as in the claimed invention. I understand the prior art itself may

provide a suggestion, motivation, or reason to combine or modify the teachings of the prior art, or that such a reason may come from other sources, such as the knowledge of a POSITA, common sense, and market forces.

28. I further understand, however, that I must be careful not to determine obviousness using the benefit of hindsight. I should put myself in the position of a person of ordinary skill in the field at the time the claimed invention was made and I should not consider what is known today or what is learned from the teaching of the patent.

29. I further understand that there is no single way to define the line between true inventiveness on the one hand (which is patentable) and the application of common sense and ordinary skill to solve a problem on the other hand (which is not patentable). For example, market forces or other design incentives may be what produced a change, rather than true inventiveness. I may consider whether the change was merely the predictable result of using prior art elements according to their known functions or substituting one known element for another, rather than being the result of true inventiveness. I may also consider whether there is some teaching or suggestion in the prior art to make the modification or combination of elements claimed in the patent. I may consider whether the innovation applies a known technique that had been used to improve a similar device or method in a similar way. I may also consider whether the claimed invention would have been

obvious to try, meaning that the claimed innovation was one of a relatively small number of possible approaches to the problem with a reasonable expectation of success by those skilled in the art.

30. Finally, I understand that any obviousness rationale for modifying or combining prior art must include a showing that a person of ordinary skill would have had a reasonable expectation of success. The expectation of success need only be reasonable; a perfect implementation or commercial embodiment of the invention is not required.

E. Objective Indicia of Non-Obviousness

31. I understand that objective evidence may be considered as an indication that the claimed invention would not have been obvious at the time the claimed invention was made. I understand that the purpose of such objective indicia of non-obviousness, also sometimes referred to as secondary considerations of non-obviousness, is to prevent a hindsight analysis of the obviousness of the claims.

32. I understand that objective indicia of obviousness or non-obviousness may include the commercial success of the invention, industry praise for the invention, skepticism of the invention, licensing of the invention, copying of the invention, any long-felt need that the invention solved, failure of others, and unexpected results of the invention.

33. I further understand that in order for evidence of secondary considerations to be significant, there must be a sufficient nexus between the claimed invention and the evidence of secondary considerations. I understand that this nexus serves to provide a link between the merits of the claimed invention and the evidence of secondary considerations provided.

VI. SUMMARY OF OPINIONS

34. For purposes of this declaration, I have been asked to analyze claims 1-16 of the '056 Patent (“the Challenged Claims”) in view of the prior art. In my opinion, the Challenged Claims are obvious based on the following prior art:

35. Claims 1-16 are obvious based on U.S. Patent Publication No. 2008/0102947 (“Hays”).

36. Claims 1-16 are obvious based on Hays in combination with U.S. Patent No. 7,698,178 (“Choi”).

37. Claims 5 and 13 are obvious based on Hays or Hays with Choi in combination with U.S. Patent Publication No. 2007/0174490 (“Chu”).

38. Claims 1-16 are obvious based on U.S. Patent Publication No. 2007/0088801 (“Levkovitz”).

39. Claims 5 and 13 are obvious based on Levkovitz in combination with Chu.

40. Claims 8 and 16 are obvious based on Levkovitz in combination with Choi.

41. I provide my detailed reasoning for the above opinions in the sections that follow.

VII. TECHNOLOGY BACKGROUND

42. In this section, I provide an overview of technical concepts and design principles underlying the '056 Patent.

A. Video Games

43. Video games have been available on a variety of different platforms for decades. The earliest video games date back to at least the late 1950s or early 1960s. For example, in 1958, Willy Higinbotham, a scientist at Brookhaven National Laboratory, programmed an oscilloscope to enable people to use it to play an interactive tennis game. Ex. 1010 at 35. In early 1961, one of the first proper computer games was developed by students at MIT, programmed on a computer the University had recently purchased—a computer that cost roughly \$120,000 and was the size of a large vehicle. *Id.* at 34. The first version of the game—called “Spacewar,” and allowing players to engage in simple one-on-one duels between rocket ships—took nearly six months and 200 hours of work to complete. *Id.* at 35.

44. Video games became much more popular and mainstream beginning in the 1970s. A number of different companies began developing and making video

games for coin-operated arcade machines in the 1970s, leading to a significant boom in the industry by the end of the decade. *See generally* Ex. 1010 at 140-166 (discussing the “Golden Age” of video games from 1979-1980). The 1970s also saw video games enter the home and personal device market. In 1972, Magnavox released one of the first home video game consoles, called the Odyssey. Ex. 1010 at 42. In 1977, Atari released the Atari home video game console (originally branded as the Video Computer System or VCS). *Id.* at 124. The system included a controller with dials and a joystick for playing games, and worked with video game cartridges, which players could insert into the system in order to play different games. *Id.* Many foundational games in video game history also find their origins in arcade machines and home console games, including Pong, Space Invaders, and Pac-Man. In the 1980s, video games on personal devices (such as home game consoles) became even more popularized, particularly with Nintendo’s release of the “Famicom” in 1983 (later released in the United States as the “Nintendo Entertainment System”), followed shortly thereafter but Sega’s “Master System.” *Id.* at 295, 320. The growth of the video game marketed only accelerated with the passing years. For example, by 1989, video game companies such as Nintendo were reporting billions of dollars in sales per year. *Id.* at 429.

B. Mobile Games

45. Video game companies began developing portable video game products as early as some of the earliest home video game consoles. For example, in the 1970s, Nintendo created a portable watch-shaped video game device, named the “Game & Watch.” Ex. 1010 at 296; Ex. 1011 at 2. In 1989, Nintendo released the Game Boy, designed by the same team that originally created the Game & Watch—the first handheld video game system that used interchangeable cartridges, allowing players to play different games on the same device. Ex. 1010 at 430; Ex. 1011 at 2. Wireless network communication capabilities soon also became standard features in handheld video game systems including the Nintendo DS and Sony’s PlayStation Portable (PSP) both released in 2004. Ex. 1011 at 2. Ex. 1013 at 4.

46. Video games did not make a pronounced appearance on mobile *phones*, specifically, until the 1990s. One of the earliest mobile phone games was a mobile version of the arcade game *Snake*, preinstalled on Nokia mobile handsets beginning in 1997. Ex. 1011 at 2; Ex. 1012 at 2. As capabilities of mobile devices improved in the late 1990s and through the early 2000s—for example, bigger screens with color displays, faster processors, and increased memory capacity—demand for mobile games rapidly increased, and both handset manufacturers and game developers began to increasingly devote time and effort to the development of mobile games and mobile game platforms. Ex. 1012 at 2; Ex. 1013 at 2. As one

example, in 2002, Nokia introduced the N-Gage, a portable gaming device built on mobile phone hardware and incorporating mobile phone functionality. Ex. 1013 at 4.

47. Designing games for mobile devices did pose some well-recognized challenges: for example, because different phones incorporated different screen sizes, color depths, APIs, and user inputs, developers had to design their games to support a wide variety of different mobile device hardware. Ex. 1012 at 1; Ex 1014 at 1. Despite these challenges, however, mobile gaming was considered to be one of the fastest growing segments in the video game industry in the mid-2000s. Ex. 1014 at 1. For example, by 2003, experts already predicted that the mobile game market would generate over \$15 billion in annual revenue within several years. Ex. 1012 at 1. Many of the largest video game publishers also recognized the value of mobile games and sought to establish a foothold in that market—for example, in 2006, Electronic Arts acquired mobile game developer Jamdat for \$680 million. Ex. 1014 at 1.

48. Indeed, the challenges in mobile game design were far from insurmountable. By the early 2000s, multiple companies were already working on approaches to facilitate mobile game development. For example, Intel developed a 3D graphics toolkit for its mobile processors, designed to provide support for 3D rendering in mobile devices using fewer processing resources, and NVIDIA released

a 3D wireless media processor to support increased improved graphics processing not previously possible on mobile devices. Ex. 1012 at 3; Ex. 1013 at 3. Mobile handset developers such as Ericsson and Motorola were working to define standardized APIs and software development kits to support game development on mobile devices, and, indeed, by 2007 had already published APIs for standard applications used by game developers, such as communications and multimedia. Ex. 1012 at 3; Ex. 1014 at 1. And companies such as Oracle and Qualcomm released mobile software platforms, such as J2ME (Oracle) and BREW (Qualcomm), which allowed game developer to create games that develop their game once and offer it on many different types of mobile devices. *Id.*; Ex. 1013 at 2-3.

49. By June 2007, the priority date of the '056 Patent, mobile devices and mobile games were both widespread and popular. For example, the '056 Patent itself notes in the specification that “[m]any mobile communication devices ... are capable of operating video games,” and “gaming on mobile communication devices has become a popular mode of entertainment.” Ex. 1001, 1:13-16, 1:25-27. Numerous publications and articles in industry journals similarly recognized the significance of mobile games and their expected long-term impact on the video game industry. *See generally, e.g.,* Exs. 1012, 1013, 1014.

C. Dynamic Content and In-Game Advertising

50. Around the time that mobile games were rising in popularity, particularly in the early-to-mid-2000s, video game publishers and advertising companies both began to appreciate the potential value of incorporating dynamic advertisements into video games.

51. The idea of incorporating new content into video games after their initial publication and release had already been popularized long before advertisers entered the picture. Many game developers had already developed expansion packs for their games that would add new maps or items for released games, allowing players to experience older games in a new way. Similar concepts worked their way into mobile games as well. For example, by 2001, Nokia had launched a subscription service for its customers called “Club Nokia.” Ex. 1018 at 52. Club Nokia members could download game packs that added new levels or other in-game elements for applicable games on their mobile devices. *Id.*

52. By the early-to-mid-2000s, advertisers realized that video games represented an untapped market for reaching consumers and began partnering with video game developers and publishers to incorporate advertisements into video games. These joint efforts soon led to the development of in-game ad networks, utilizing advertising servers to dynamically supply ads for display in a wide variety of video games. For example, by 2006, multiple companies had launched in-game

advertising networks, including Double Fusion, Massive Inc. (later acquired by Microsoft), IGA Worldwide, and AdScape (later acquired by Google). Ex. 1015 at 1-2; Ex. 1016 at 22-23. Although in-game ads frequently took the form of images overlaid on billboards, some ads were designed to be interactive within the game. For example, in 2006, Massive partnered with the game *Anarchy Online* to provide interactive billboards advertising the Toyota Yaris. Ex. 1016 at 45. These billboards would display additional information about the car when a player interacted with them. *Id.*

53. Some in-game ad networks were also designed to extend into mobile games as well. For example, in 2006, IGA Worldwide announced a partnership with Exit Games to deliver dynamic in-game advertising for mobile games. Ex. 1017 at 1. Several of the prior art references that I discuss later in this declaration are patents and patent publications that originated from these companies and contemplate incorporating dynamic in-game ads into mobile games. *See, e.g.,* Ex. 1006 (Greystripe), Ex. 1007 (Massive).

VIII. THE '056 PATENT

54. In this section, I provide an overview of the '056 Patent and a summary of the prosecution history.

55. The '056 Patent is titled "*Methods and systems for updating in-game content.*" Ex. 1001. It was filed on April 9, 2020 as Application No. 16/844,256.

Ex. 1001. It is a continuation of an earlier application filed on July 10, 2017, which is now Patent No. 10,617,958, which itself is a divisional application to an earlier application filed June 26, 2007, which is now Patent No. 9,731,202. *Id.* I have opined about the '202 Patent and the '958 Patent in different IPRs. *See* IPR2024-00132, Ex. 1003; IPR2024-00171, Ex. 1003.

A. Specification

56. The specification of the '056 Patent is directed to “updating content of a mobile video game [and] allow[ing] for mobile communication devices to receive updated content for video games that operate on the devices.” Ex. 1001, Abstract. The '056 Patent explains that these content updates “may be promotional in nature,” *i.e.* advertisements. *Id.*

57. The '056 Patent explains that “[a]fter server 120 receives a communication request from mobile communication device 110, server 120 may check whether updated content is available for one or more mobile video games.” *Id.*, 5:58-61. The server determines “whether updated content should be sent to the particular mobile communication device 110,” and “user information may also be utilized to determine which updated content to download, such as the sex, age, or interests of the user.” *Id.*, 5:65-6:7. In addition to updated content, the server may also send the mobile communication device a “message relating to the content,” such as a “message alert[ing] the user of available updated content” or a message that

“helps the mobile communication device internally check what available updated content is already present on the mobile communication device.” *Id.*, 3:39-41, 9:53-10:21.

58. When the “updated content has been downloaded by the mobile communication device 110, the content may be placed in-game (i.e., within the video game environment).” *Id.*, 6:13-15.

B. Prosecution History

59. The application that issued as the '056 Patent was filed on April 9, 2020. Ex. 1002.

60. During prosecution of the '056 Patent, the examiner rejected nearly all of the original claims as anticipated or obvious based on U.S. Patent Publication No. 2008/0307412 (“Marr”), alone or in combination with U.S. Patent Publication No. 2006/0136297 (“Willis”), but noted that two dependent claims (reciting that the server pre-selects a message “based on a model type ..., a service subscription ..., or a service provider ... associated with the mobile device”) would be allowable if incorporated into the independent claims. Ex. 1002, 96-101.

61. The examiner also raised a non-statutory double patenting rejection. *Id.*, 101-102. I have been informed that “non-statutory double patenting,” also sometimes referred to as “obviousness type double patenting,” is when the patent examiner rejects claims as an obvious variation of claims in a different application

filed by the same named inventors. I understand that the applicant can either amend the claims to make them patentably distinct from the previous claims, or file a terminal disclaimer so that the new claims will expire no later than the expiration date of the previous claims.

62. In response to the rejection, applicant filed a terminal disclaimer and amended the independent claims to incorporate the allowable limitations of the identified dependent claims. *Id.*, 56-57, 75-80. The claims as amended were then allowed. *Id.*, 34-37.

63. I note that both the Hays and the Levkovitz references, which are the primary references in the grounds of challenge that I discuss below, disclose a server that pre-selects a message based on information about the user, such as the model type of the user's mobile communication device. I understand that neither reference was cited or considered by the examiner during prosecution.

C. Claims

64. I understand that Petitioner challenges claims 1-16 of the '056 Patent, which I reproduce below:

Claim	Limitation
Claim 1	
1[pre]	A system for providing updated content associated with a mobile video game to a mobile communication device, the system comprising:

Claim	Limitation
1[a]	a storage medium for storing in-game video game content;
1[b]	a server in communication with the storage medium; and
1[c]	wherein the server is configured to: receive a request for updated content from the mobile communication device;
1[d]	identify, in response to receiving the request, what in-game video game content to send;
1[e]	send a message relating to the in-game video game content to the mobile communication device in response to receiving the request, wherein the message is pre-selected by the server based on a model type associated with the mobile communication device, a service subscription associated with the mobile communication device, or a service provider for the service subscription associated with the mobile communication device; and
1[f]	send the in-game video game content to the mobile communication device as the updated content for the mobile video game.
Claim 2	
2	The system of claim 1, wherein the updated content comprises promotional content.
Claim 3	
3	The system of claim 2, wherein the promotional content comprises localized promotional content based on a location of the mobile communication device.
Claim 4	
4	The system of claim 1, wherein identifying what in-game video game content to send is based on a model type associated with the mobile communication device, a service subscription

Claim	Limitation
	associated with the mobile communications device, a service provider for the service subscription associated with the mobile communication device, or a location of the mobile communications device.
Claim 5	
5	The system of claim 1, wherein the server is further configured to send information to the mobile communication device regarding the in-game placement location of the in-game video game content.
Claim 6	
6	The system of claim 1, wherein the server is further configured to check whether the mobile communication device should receive the updated content before sending the updated content to the mobile communication device.
Claim 7	
7	The system of claim 1, wherein the server is further configured to track the distribution of updated content.
Claim 8	
8	The system of claim 1, wherein the server is further configured to check for availability of bandwidth before sending the updated content to the mobile communication device.
Claim 9	
9[pre]	A method for providing updated content associated with a mobile video game to a mobile communication device, the method comprising:
9[a]	storing, on a storage medium, pre-selected in-game video game content for use in a video game;

Claim	Limitation
9[b]	receiving, at a server, a request from the mobile communication device for updated content from the mobile communication device;
9[c]	identifying, by the server in response to receiving the request, what pre-selected in-game video game content to send;
9[d]	sending a message relating to the in-game video game content from the server to the mobile communication device in response to receiving the request, wherein the message is pre-selected by the server based on a model type associated with the mobile communication device, a service subscription associated with the mobile communication device, or a service provider for the service subscription associated with the mobile communication device; and
9[e]	sending, from the server, the pre-selected in-game video game content to the mobile communication device as the updated content for the mobile video game.
Claim 10	
10	The method of claim 9, wherein the updated content is promotional content.
Claim 11	
11	The method of claim 10, wherein the promotional content is localized promotional content based on a location of the mobile communication device
Claim 12	
12	The method of claim 9, wherein identifying what in-game video game content to send is based on a model type associated with the mobile communication device, a service subscription associated with the mobile communications device, a service provider for the service subscription associated with the mobile

Claim	Limitation
	communication device, or a location of the mobile communications device.
Claim 13	
13	The method of claim 9, further comprising sending information from the server to the mobile communication device regarding the in-game placement location of in-game video game content.
Claim 14	
14	The method of claim 9, further comprising checking whether the mobile communication device should receive the updated content before sending the updated content to the mobile communication device.
Claim 15	
15	The method of claim 9, further comprising tracking the distribution of updated content at the server.
Claim 16	
16	The method of claim 9, wherein the server checks for availability of bandwidth before sending the updated content to the mobile communication device.

IX. LEVEL OF ORDINARY SKILL IN THE ART

65. In my opinion, based upon my knowledge and experience in the field of the '056 Patent (*i.e.*, video game design and associated software programming), a POSITA as of June 26, 2007 would have had at least an undergraduate degree in game design or development, computer science, computer engineering, or a related field, and at least two years of experience working with computer gaming systems

or software application development. Less work experience may be compensated by a higher level of education or vice versa. The following reasons support my opinion.

66. First, the typical level of education for persons working in the field would include an undergraduate degree in game design or development, computer science, computer engineering, or a similar field. Video games are essentially a specific type of software application, and developing video games involves developing the software for the game. For example, by 2007, most video games included, at a minimum, software programming to enable (1) computer graphics, such as for displaying a game world, game characters, and game objects on the screen; (2) user input, such as from a keyboard, mouse, joystick, or other controller, to allow the user to control a character or interact with the game world; and (3) logic for progressing through the game and changing the game world or game state in respond to the user input. By 2007, many games also included a multiplayer or online component, which additionally required software programming for communicating with devices of other players in the game or a game server (i.e. networking). I would expect a college graduate with a degree in game design or development, computer science, or computer engineering to be familiar with these aspects of software programming. Indeed, by early 2007, several colleges already offered courses specifically focusing on game design and even mobile game design.

Ex. 1014 at 2.

67. Second, two years of experience working with computer gaming systems or software application development would be typical for a person deemed to have ordinary skill in the technology underlying the '056 Patent. This level of experience may provide an engineer with more specialized focus in software development that may be relevant to video games. It may also provide an engineer with an understanding of common video game elements and design principles and how those principles would be implemented in the software of a video game.

68. Third, the objective of game designers and developers in the field typically involved making games more engaging and appealing to players. Various elements could contribute to these objectives, such as improved computer graphics to catch the player's eye, larger game worlds to offer the player more opportunities to explore and interact with the game, more interactive in-game elements to engage the player, improved artificial intelligence for computer-controlled characters (*e.g.*, in-game enemies) to make the game world more realistic, or to better adapt the challenge of the game to the player's skill level, and dynamic and updateable content to keep the game "fresh" even after the player becomes familiar with the game mechanics. A game developer or software engineer with a game design or computer science/engineering background and at least two years of experience with gaming systems or software development would have been familiar with these problems and programming techniques to implement and address them. For example, an entry

level game developer or game programmer would be familiar with basic game elements such as maps, characters, items, and user input, and would have a sufficient understanding of programming techniques to implement those elements in a video game.

69. Fourth, the proposed level of skill is consistent with the sophistication of the technology claimed in the '056 Patent. The patent and claims relate to a typical problem in game design, *i.e.*, how to keep games interesting for longer periods of time, and only require standard programming techniques to implement the alleged invention, such as defining and displaying objects in the game, providing responses to user input, communicating with a server over a network, and making certain decisions based on criteria.

70. I note that I meet and exceed the definition of a POSITA offered above.

X. CLAIM CONSTRUCTION

71. For purposes of this declaration, I have applied the ordinary and customary meaning of the claim terms as they would have been understood to a POSITA as of the priority date of the '056 Patent, June 26, 2007. I have considered that meaning in the context of the patent and its prosecution history.

72. Based upon my review of the '056 Patent, and based on my own knowledge, expertise, and experience in this field, the claims do not use any specialized terms that would require additional explanation or express definitions.

The ordinary and customary meaning of the claims and the terms used therein would have been understood by a POSITA.

XI. OVERVIEW OF THE PRIOR ART

73. In this section, I provide an overview of the prior art references that I have relied on to inform my opinions.

74. As I describe in this section, all of the references I rely upon in my obviousness analysis relate to provision and display of advertisements in a video game, and typically a video game running on a mobile communication device. Thus, all of these references would be obvious sources that a POSITA would have considered when seeking to improve the provision of updated content to a mobile video game, as they all relate to the same field of endeavor, *i.e.*, systems and methods for delivering updated content, such as advertisements, to video games.

A. U.S. Patent Pub. No. 2008/0102947 (“Hays”)

75. Hays is titled *Delivery of Advertising Into Multiple Video Games*. Ex. 1005. Hays was filed on March 8, 2005.

76. Hays is directed to “[a]n advertisement delivery scheme and associated facility provide targeted advertisements for multiple video games without advertisers having to specify specific game titles in which they would like their advertisements placed.” Ex. 1005, Abstract. In particular, Hays describes “[a]n advertisement delivery scheme and associated computerized facility” that “allow

advertisers to deliver their campaign messages to specific audiences they wish to target across one or more multiple game titles played across multiple platforms (e.g., PC, console, mobile, etc.).” *Id.*, ¶17. This is done by the “game playing device ... request[ing] and receiv[ing] advertisements from the advertisement management service system.” *Id.*, ¶51. The advertisement management service system selects which advertisements to deliver using “an advertising matching and weighting system,” which “calculate[s] [a] weight of each advertisement based on several factors including ... information regarding the specific client type.” *Id.*, ¶43.

77. When the video game receives the advertisement, they are “presented in the appropriate available ad units at the appropriate time during game play.” *Id.*, ¶21. For example, “a game character [that] may move around a screen holding a can of Pepsi and ask player if they would like a drink.” *Id.*, ¶79. The below annotated Figure 1A shows the relationship between Hays’s various systems.

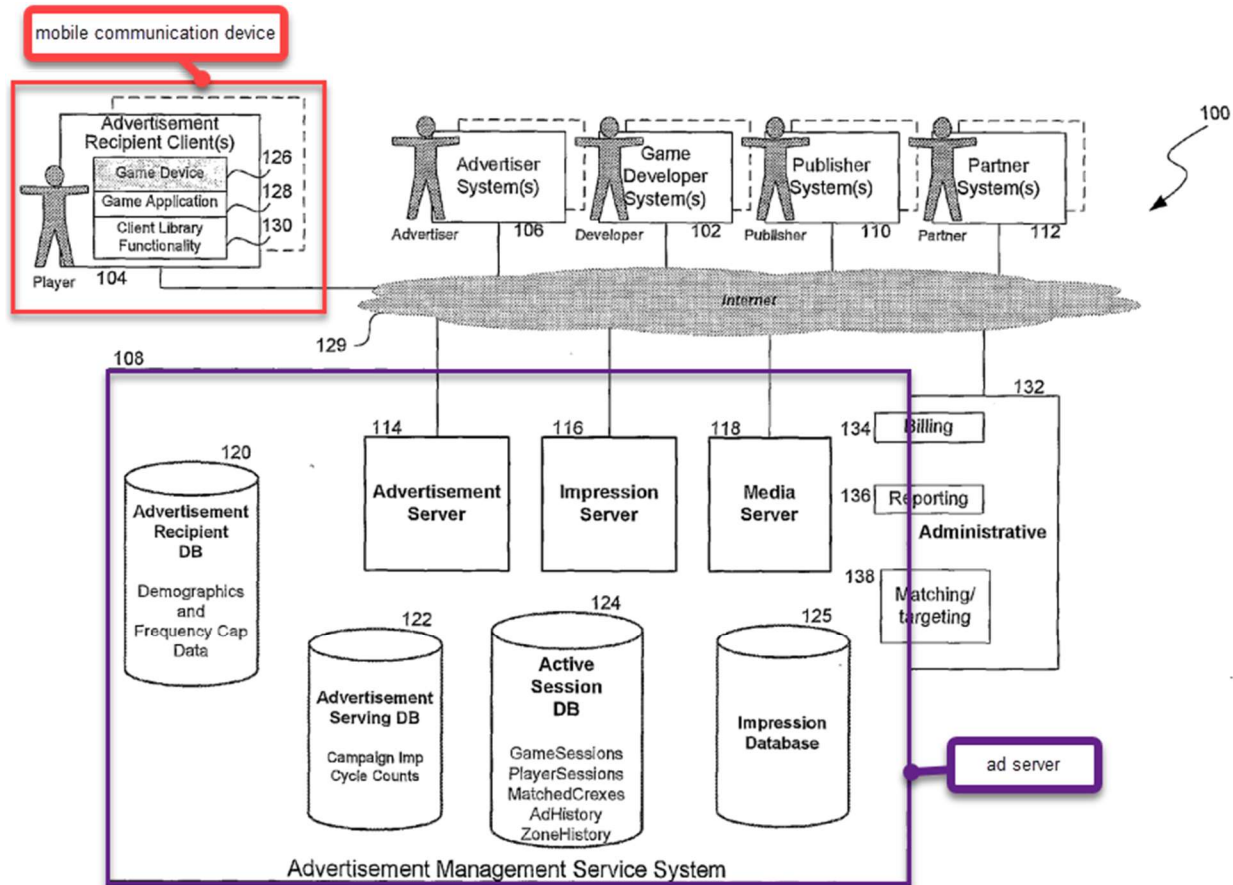


FIG. 1A

B. U.S. Patent Pub. No. 2007/0174490 (“Choi”)

78. Choi is titled *System and methods for managing content in pre-existing mobile applications*. Ex. 1006. Choi was filed on January 19, 2007 and claims priority to several provisional applications filed in 2006. *Id.*

79. Choi is directed to “[m]ethods and systems for managing distribution and retrieval of data (for example advertising content and viewing statistics) ... into pre-existing mobile applications” such as “portable game consoles.” Ex. 1006, Abstract, ¶3. In selecting advertisements to deliver to the mobile game, Choi describes using “demographic information from the carrier” of the mobile device as

well as using “GPS location information to request location-specific advertising.” Ex. 1006, ¶¶84, 43. Choi obtains demographic information from the carrier by inference because “a users’ carrier implies a certain demographic.” *Id.*, ¶86, ¶96 (“[S]ome carriers have users that are older, younger, businesses, family, etc.”).

C. U.S. Patent No. 7,698,178 (“Chu”)

80. Chu is titled, *Online game advertising system*. Ex. 1007. Chu was filed on November 22, 2005 and published on April 20, 2006. *Id.*

81. Chu is directed to “[A]n online game advertising system ... for enabling ... interactive advertisements ... that appear within an online video game.” Ex. 1007, Abstract. Chu discloses “advertising metadata and schedules that determine what advertisements are to display in specified locations within the game,” and in turn receiving advertisements that include “[a] location object (530, 630) [that] represents the location within a game at which advertisements are to appear.” Ex. 1007, 14:20-15:5.

D. U.S. Patent Pub. No. 2007/0088801 (“Levkovitz”)

82. Levkovitz is titled *Device, system and method of delivering targeted advertisements using wireless application protocol*. Ex. 1008. Levkovitz was filed on May 4, 2006 and published on April 19, 2007. *Id.* It also claims priority to U.S. Pat. Application No. 11/250,476, which was filed on October 17, 2005. *Id.*

83. Levkovitz is directed to “contextual and/or noncontextual placement of content, e.g., advertisements or banners, within an application executed by a cellular phone, a mobile phone, or other wireless communication device.” Ex. 1008, ¶5. The application could be “games for mobile phones.” *Id.*, ¶6; *see also* ¶123 (“The application 176 may be ... a game”), ¶127 (“a first application 176 (e.g., a chess game)”, “a second application 176 (e.g. a racing game).”).

84. Advertisements are delivered by the mobile game “request[ing] content” from an “ad server” which will “selectively serve content items to the content client, based on parameters related to the mobile phone, e.g., manufacturer identifier, model identifier, available memory, presentation capabilities, or the like..” Ex. 1008, ¶6, *see also id.*, ¶126 (“[A]d server 110 may select one or more content items which may be adequately presented by device 170 based on properties of device 170, e.g., handset model ...”). The “ad server” then “serve[s] content items directed for presentation using a first application 176 (e.g., a chess game).” Ex. 1008, ¶127. The “[d]evice 170 may present the content item(s),” such as “within application 176, during or together with the execution of application 176.” *Id.*, ¶131. For example, “the user may complete a level in the game, and the first advertisement may be presented.” *Id.*, ¶320.

XII. OBVIOUSNESS ANALYSIS FOR THE CHALLENGED CLAIMS

85. In this section, I provide an analysis of how the prior art renders obvious claims 1-16 of the '056 Patent. I have organized my analysis into the following grounds:

Grounds	Claims	Statutory Basis	Prior Art
1	1-16	§103	Hays
2	1-16	§103	Hays, Choi
3	5, 13	§103	Hays (or Hays/Choi), Chu
4	1-16	§103	Levkovitz
5	5, 13	§103	Levkovitz, Chu
6	8, 16	§103	Levkovitz, Choi

86. For each ground involving multiple references, I address motivation to combine and reasonable expectation of success, and then analyze the teachings of the prior art on an element-by-element basis.

A. Ground 1: Hays Alone Renders Obvious Claims 1-16

87. For the reasons set forth in detail below, and based on my review of the '056 Patent, file history, and the prior art references cited in my analysis, a POSITA would have readily understood that the teachings of Hays alone render obvious all elements of claims 1-16.

1. Claim 1

a) *Element 1[pre]: A system for providing updated content associated with a mobile video game to a mobile communication device, the system comprising:*

88. To the extent the preamble is limiting, in my opinion, Hays discloses this limitation.

89. Hays describes “[a]n advertisement delivery scheme and associated computerized facility” that “allow advertisers to deliver their campaign messages [*i.e.* the claimed ‘updated content’] to specific audiences they wish to target across one or more multiple game titles [*i.e.* the claimed ‘mobile video game’] played across multiple platforms (e.g., PC, console, mobile, etc.) [*i.e.* the claimed ‘mobile communication device’].” Ex. 1005, ¶17. For example, Hays discloses that “[w]hen a game is played at a player’s gaming device ... the client library functions associated with the game application may pull media data [*i.e.* the claimed ‘updated content’] from the advertisement server and pass them on to the game code, so that specific advertisements may be presented in the appropriate available ad units at the appropriate time during game play.” *Id.*, ¶21. In my opinion, because the advertisements are presented “in the appropriate ad units at the appropriate time during game play,” they are associated with the video game.

90. The claimed “updated video-game content” includes advertisements per the ’056 Patent’s specification. For example, the ’056 Patent states that

“[V]irtually any of these items may be changed by receiving updated content on the mobile communication device. For instance, ... [t]he poster 225 might advertise an upcoming movie for third party Y, and chalk board 220 may contain a handwritten advertisement for third party Z.” Ex. 1001, 6:44-52.

91. Hays also describes that its “gaming platforms” include “hand-held devices, wearable computers, cellular or mobile phones, microprocessor-based or programmable consumer electronics, ... and the like,” all of which are examples of the claimed “mobile communication device.” Ex. 1005, ¶51. Moreover, Hays states that its use of “game console” and “console” “refers to any of the above devices,” including the mobile devices. *Id.*

b) Element 1[a]: a storage medium for storing in-game video game content;

92. In my opinion, Hays discloses this limitation.

93. For example, Hays discloses “an advertisement server” that includes “one or more database components [*i.e.* the claimed ‘storage medium’] that contain ... media files,” which are “pull[ed]” and “pass[ed] ... to the game code, so that specific advertisements may be presented in the appropriate available ad units at the appropriate time during game play [*i.e.* the claimed ‘in-game video game content’].” Ex. 1005, ¶¶20-21. Hays also discloses an “advertisement management service system 108” which includes “a media server 118 (which stores and serves specific

media files containing advertisement display/audio information ...).” *Id.*, ¶28. Hays discloses that the “database components” and “media server” on which advertisements are stored include media such as “computer-readable media, including magnetically or optically readable computer discs, hard-wired or preprogrammed chips (e.g., EEPROM semiconductor chips), nanotechnology memory, biological memory, or other data storage media.” *Id.*, ¶98. Moreover, a POSITA would readily understand that Hays’s “advertisement server” or “media server 118” includes a “medium” for storing (such as a hard drive, memory, etc.) since they store media files. A POSITA would understand that “media files” are electronic files stored on one of these examples of storage media.

c) Element 1[b]: a server in communication with the storage medium; and

94. In my opinion, Hays discloses this limitation. For example, Hays discloses that its “advertisement server” includes “one or more database components [*i.e.* the claimed “storage medium”],” from which it “may pull media data,” which means that the advertisement server is in communication with the database, including its storage medium as identified above in limitation 1[a]. Ex. 1005, ¶¶20-21. Hays also discloses that “an advertisement server 114” is connected to “a media server 118 (which stores and serves specific media files containing advertisement display/audio information ...)” via the “Internet 129.” *Id.*, ¶28; Fig. 1A. The below

annotated Figure 1A depicts the advertisement server and media server as being connected via the Internet, which is one means for communicating between endpoints. Thus, the advertisement server is in communication with the media server, including its storage medium as identified above, so that it can store and receive media files.

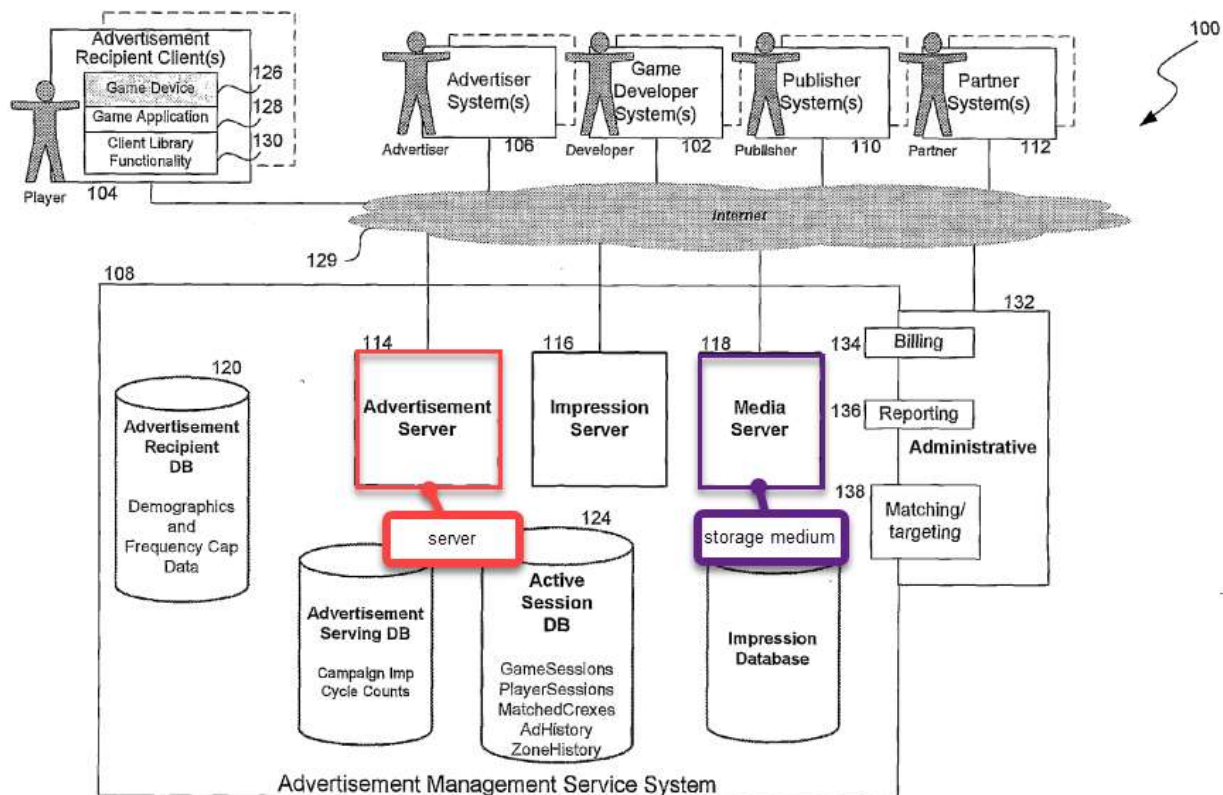


FIG. 1A

- d) *Element 1[c]: wherein the server is configured to: receive a request for updated content from the mobile communication device;*

95. In my opinion, Hays discloses this limitation.

96. Hays discloses that the server is operative to receive a request for updated content from the mobile communication device over the network. For example, Hays discloses that “[t]he advertisement recipient client 104 may include a game playing device 126 (e.g., a console, computer, portable game device, ...)” and that it “may request and receive advertisements [*i.e.* the claimed ‘updated content’] from the advertisement management service system 108 and may be configured to establish communication via a communication link, such as the Internet 129 [*i.e.* the claimed ‘network’].” Ex. 1005, ¶32; Fig. 1A. Specifically, “the advertisement server 114 [*i.e.* the claimed ‘server’] may fulfill requests received from the advertisement recipient client 104.” *Id.*, ¶29. And as I mentioned in 1[pre], the game playing device also includes “cellular or mobile phones.” *Id.*, ¶51.

97. Thus, and as shown in Figure 1A, Hays describes that the client requests advertisements from the server by sending the request via a network. Figure 1A depicts that communications between the mobile communication device and server (including requests) occur via the Internet 129, as I have annotated below.

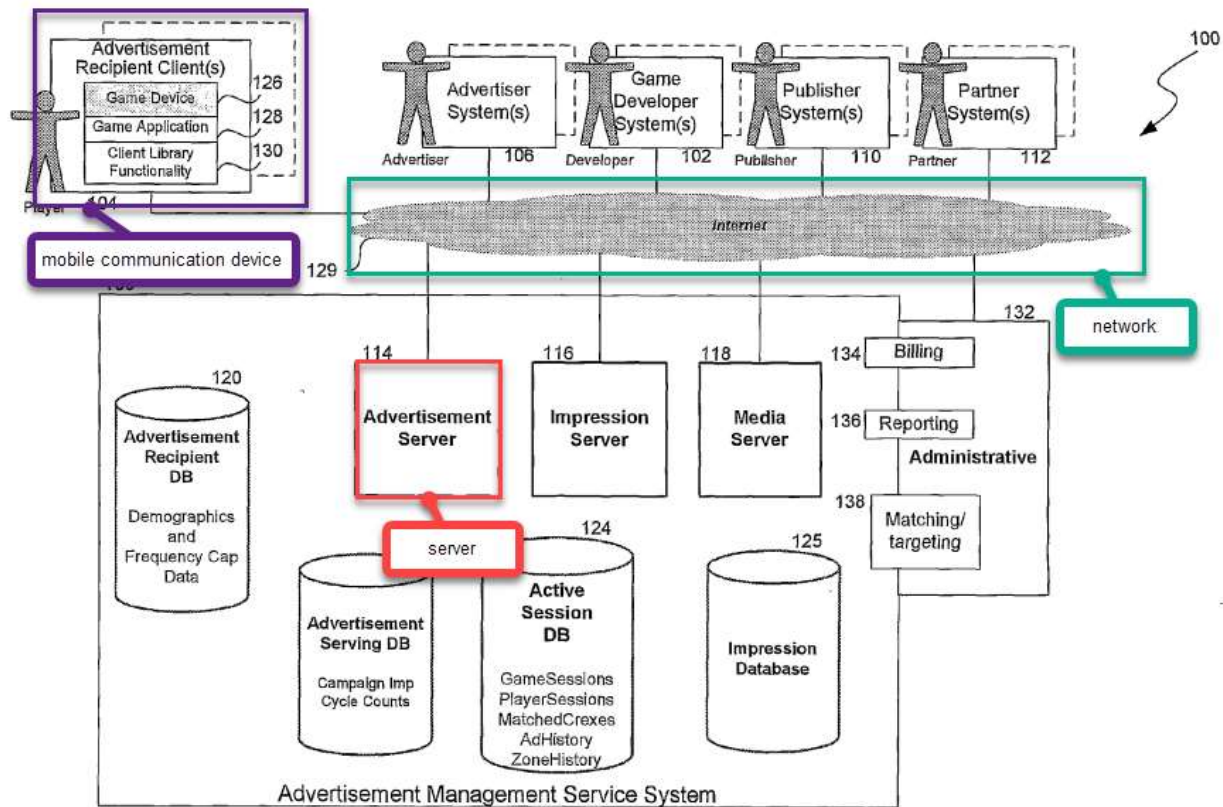


FIG. 1A

e) *Element 1[d]: identify, in response to receiving the request, what in-game video game content to send;*

98. In my opinion, Hays discloses this limitation.

99. For example, Hays discloses that when the mobile communication device sends a request for advertisements, the “request contains a data structure that includes a unique identifier to indicate the client type ... [which] can effectively be a SKU, which includes a type of game console ...” Ex. 1005, ¶40. The “advertising request handler 210” forwards the request “to an advertising matching and weighting system,” which “calculate[s] [a] weight of each advertisement based on several factors including ... information regarding the specific client type.” *Id.*, ¶¶40, 43. In

other words, the weight of the advertisement (and thus the determination of what in-game video game content to send back to the mobile communication device) is based on the client type submitted with the request.

100. The “advertising matching and weighting system 220 then selects one or more advertisements from the weighted advertisement set, where the probability of an advertisement being selected is directly derived from the advertisement’s assigned weight, relative to other advertisements in the set.” *Id.*, ¶43. In other words, the advertising matching and weighting system on the server identifies, in response to the request (and based on information communicated in the request), what in-game video game content to send to the mobile communication device.

f) Element 1[e]: send a message relating to the in-game video game content to the mobile communication device in response to receiving the request, wherein the message is pre-selected by the server based on a model type associated with the mobile communication device, a service subscription associated with the mobile communication device, or a service provider for the service subscription associated with the mobile communication device; and

101. In my opinion, Hays discloses this limitation.

102. For example, in response to the mobile communication device’s request, Hays discloses that “selected advertisements are then sent back to the ... advertisement recipient client for display.” Ex. 1005, ¶43. In my opinion, the action of sending the advertisements involves sending a “message relating to the in-game

video game content” because the advertisements are sent as a network message containing the advertisement. For example, Hays teaches that advertisements may have both content and associated metadata (*i.e.*, a “message relating to the in-game video game content”), and “delivery of the content for advertisements may be separated from the metadata concerning the advertisement.” *Id.*, ¶41. A POSITA would also understand that a network packet has a particular pre-defined message format which can be populated with data such as the audiovisual data used for advertisements. I note that according to the ’056 patent, the “message relating to the in-game video game content” need not be “displayed to the user.” Ex. 1001, 10:6-8.

103. Another example is Hays’s disclosure that the advertisements are “provid[ed]” as “lists of advertisements for specific available ad units.” *Id.*, ¶29; *see also* ¶40 (server “produces a set of one or more matched advertisements to be displayed for each available ad unit”). In my opinion, the “lists of advertisements” are a message relating to the in-game video game content because the list is a data structure that specifies details about the available updated content, specifically which selected advertisements to display, which is one example of a message listed in the ’056 patent. *See, e.g.*, Ex. 1001, 10:1-3.

104. In another example, Hays also discloses that in response to a request, the server “deliver[s] the files *and data* that the advertisement recipient client 104

uses to display the advertisement.” Ex. 1005, ¶41. Since this “data” is used by the client to “display the advertisement,” it is also a message relating to the in-game video game content.

105. Finally, Hays also discloses that the advertising server “may send bots or electronic agents into the game as advertising units or real characters in the game, which advertise or promote a product (e.g., a game character may move around a screen holding a can of Pepsi and ask player if they would like a drink).” Ex. 1005, ¶79. This message asking the player if they desire a drink of Pepsi is a message that the server sends to the mobile communication device, and is a message relating to the Pepsi advertisement.

106. Just like the advertisements themselves are pre-selected based on the client type (as I discussed above for limitation 1[d], and below for claim 4), the “message relating to the in-game video game content” is also “pre-selected by the server” at least “based on a model type associated with the mobile communication device,” because both the lists of advertisements for available ad units and the ultimately selected advertisement (and its associated data and delivery format) will be determined by Hays’s “advertising matching and weighting system,” which “calculate[s] [a] weight of each advertisement based on several factors including ... information regarding the specific client type.” *Id.*, ¶¶40, 43. The weight of advertisements is also based on “demographic information about a game player

collected via the use of an IP address,” which for a mobile communication device connected to a cellular network would be the IP address associated with the cellular service provider (such as AT&T or Verizon). *Id.*, ¶44. Different service providers have different ranges of IP addresses, and so the use of an IP address for selecting an advertisement constitutes selection based on a service provider.

107. Hays also teaches that advertisements are pre-selected by “target[ing] the delivery of their advertisement campaign,” for example, “to a sub-channel as that sub-channel relates to their campaign,” *e.g.*, by “genre such as sports titles ..., children’s titles, racing titles, etc.,” or “by time of day (*e.g.*, deliver advertising to all gaming devices playing at 8 p.m. on Thursday) or by game play date (*e.g.*, once the game has been played for 45 minutes—air the Domino’s ad campaign, or in the fourth inning of the sports title, air the XYZ campaign).” Ex. 1005, ¶22. In this example, the pre-selection is based on, for example, game genre, time of day, or in-game event.

g) *Element 1[f]: send the in-game video game content to the mobile communication device as the updated content for the mobile video game.*

108. In my opinion, Hays discloses this limitation.

109. For example, Hays discloses that “[t]he selected advertisements [*i.e.* the claimed ‘in-game video game content’] are then sent back to the requesting advertising request handler 210 and transmitted back to the advertisement recipient

client for display.” Ex. 1005, ¶43. As I discussed above in limitation 1[c], the “advertisement recipient client” is “a game playing device 126 (e.g., a console, computer, portable game device, etc.),” *i.e.* a mobile communications device.

110. Hays teaches that the advertisements are “updated content for the mobile video game” because the advertisement recipient client displays the advertisements “in the appropriate available ad units at the appropriate time during game play.” Ex. 1005, ¶21.

2. Claim 2: The system of claim 1, wherein the updated content comprises promotional content.

111. In my opinion, Hays discloses Claim 2 because, as I discussed above for claim 1, Hays discloses requesting and receiving advertisements, which are promotional content. For example, Hays discloses “a game character [that] may move around a screen holding a can of Pepsi and ask player if they would like a drink.” *Id.*, ¶79.

3. Claim 3: The system of claim 2, wherein the promotional content comprises localized promotional content based on a location of the mobile communication device.

112. In my opinion, Hays discloses Claim 3.

113. For example, Hays discloses that “the advertisement server 114 may select advertisements [*i.e.* the claimed ‘promotional content’] based upon ... location.” Ex. 1005, ¶30. Hays further discloses that “advertising can be further targeted based on specific demographic characteristics of a game player” including their

“geographic location.” *Id.*, ¶44. In my opinion, a POSITA would understand that the location of a player is also the location of the mobile communication device used by that player, because the player is playing a video game on the mobile communication device and therefore the device will typically be co-located with the player.

114. In any case, it is my opinion that a POSITA would also find it obvious to use the location of the mobile communication device (such as its GPS coordinates) as the “geographic location” of the player. A POSITA would be motivated to use the mobile device’s location because, when the player is playing a video game on the device, the device’s location is also the current location of the player. A POSITA would understand that the player, if playing a game on their mobile device, will be co-located with the mobile device. Thus, the location of the mobile device will be the geographic location of the player, and likely be a better location than other alternatives for locating the player. For example, the player could have provided the system with his address, but that is not going to be as accurate or up-to-date as the location of the mobile device. A POSITA would also reasonably expect this combination to succeed because it would simply involve the well-known practice of obtaining the location of the mobile communication device (such as through its GPS receiver) and sending that data with the request for an advertisement.

- 4. Claim 4: The system of claim 1, wherein identifying what in-game video game content to send is based on a model type associated with the mobile communication device, a service subscription associated with the mobile communications device, a service provider for the service subscription associated with the mobile communication device, or a location of the mobile communications device.**

115. In my opinion, Hays discloses Claim 4. For example, Hays discloses that when the mobile communication device sends a request for advertisements, the “request contains a data structure that includes a unique identifier to indicate the client type ... [which] can effectively be a SKU, which includes a type of game console ...” Ex. 1005, ¶40.

116. This client/game console type is used in the selection of advertisements. Specifically, the “advertising request handler 210” forwards the request “to an advertising matching and weighting system,” which “calculate[s] [a] weight of each advertisement based on several factors including ... information regarding the specific client type.” *Id.*, ¶¶40, 43. The weight of advertisements is also based on “demographic information about a game player collected via the use of an IP address,” which for a mobile communication device connected to a cellular network would be the IP address associated with the cellular service provider (such as AT&T or Verizon). *Id.*, ¶44. Different service providers have different ranges of IP addresses, and so the use of an IP address for selecting an advertisement constitutes selection based on a service provider. Finally, as I discussed above for claim 3, Hays

teaches that advertisements may also be selected based on the location of the mobile communication device. *Id.*, ¶¶30, 44.

117. The “advertising matching and weighting system 220 then selects one or more advertisements from the weighted advertisement set, where the probability of an advertisement being selected is directly derived from the advertisement’s assigned weight, relative to other advertisements in the set.” *Id.*, ¶43. In other words, Hays discloses identifying which advertisement (*i.e.* the claimed “in-game video game content”) to send using weights assigned to advertisements based on factors such as the “type of game console,” demographic information associated with the device’s service provider, and/or the location of the device.

118. In my opinion, Hays makes clear that the “type of game console” is the claimed “type of mobile communication device.” Hays for example states that the term “game console ... as used generally herein ... refers to any of the above devices,” which include “hand-held devices, wearable computers, cellular or mobile phones, microprocessor systems, [and] microprocessor-based or programmable consumer electronics,” each of which are a type of mobile communication device. *Id.*, ¶51. In addition, Hays describes “consoles” as including “wireless equipment” such as “cellular phones and other wireless gaming devices.” *Id.*, ¶23.

5. Claim 5: The system of claim 1, wherein the server is further configured to send information to the mobile

**communication device regarding the in-game placement
location of the in-game video game content.**

119. In my opinion, Hays discloses Claim 5.

120. For example, Hays discloses “available ad units” which are “spaces” that include “pre-designated geometry within the game, such as billboards, storefront signs, panel trucks, Jumbotron screens, in a sports stadium, posters on walls, T-shirts on a game character, items used by game characters ..., and so on.” Ex. 1005, ¶18. Such “ad units” are therefore in-game placement locations associated with advertising (*i.e.* the claimed “in-game video-game content”).

121. Hays discloses that these available ad units are “sent to the mobile communication device as part of the updated content” as claimed. As I discussed above in claim 1, Hays discloses that the “advertisement server 114” provides advertisements to the mobile communication device. Hays further discloses that “the advertisement server 114” sends these “requested lists of advertisements for specific available ad units,” which a POSITA would understand as the server specifying which advertisements are for which specific ad units. Ex. 1005, ¶29. Because the server sends a list of multiple advertisements, the client device would need to know which ad units those advertisements were intended to be used on. For example, Hays describes an interactive ad unit where “a game character eating a brand name energy bar to boost her power in the game.” *Id.*, ¶19. When the server

provides the specific brand name of the energy bar to be displayed along with other advertisements that were selected, the client device needs to know which ad unit is associated with the provided brand name of the energy bar. Thus, the server must have sent with the advertisement the specific ad unit that the advertisement is to be used with.

122. Hays also discloses that “advertisers use insertion orders” to request placement of their advertisements on “specific available ad unit[s] for a defined period of time and view frequency.” *Id.*, ¶57. For example, “a company may request its logo to be placed on any panel trucks in Zone 7 of the game.” *Id.* These “insertion orders” are “entered onto the advertisement serving database” (*id.*, ¶58), which is the same database used by “[t]he advertisement server 114” to retrieve advertisements and advertisement information to be sent to the client device. *Id.*, ¶¶30, 43. A POSITA would understand that when sending the advertisement to the mobile communication device, the ad unit requested by the advertiser is also sent to the mobile communication device because that is the only way for the device to know which ad unit (*i.e.* the claimed “in-game placement location”) the advertiser chose for its advertisement.

123. In any case, it is my opinion that a POSITA would have also found it obvious to send the specific ad unit (*i.e.* the claimed “in-game placement location”) with the advertisement sent to the mobile communication device, because a POSITA

would be motivated to provide a mechanism to inform the game running on the device where to place the advertisement, as that would fulfill the contractual obligations to the advertiser. A POSITA would have reasonably expected such a combination to succeed because the modification would simply include the specific ad unit when sending an advertisement, which is information already stored by the server (such as when advertisers use “insertion orders” as described above). Providing additional information with the server response would be a straightforward change well-within the capabilities of a POSITA.

6. Claim 6: The system of claim 1, wherein the server is further configured to check whether the mobile communication device should receive the updated content before sending the updated content to the mobile communication device.

124. In my opinion, Hays discloses Claim 6.

125. For example, Hays discloses that “[t]he advertisement recipient database 122,” the database from which advertisements are retrieved by the advertising matching and weighting system, “contains information about the technical media formats accepted by each advertising destination within an advertisement recipient client and about which advertising has been specifically approved for each advertisement recipient client by a game publisher/developer.” Ex. 1005, ¶¶42-43. In other words, Hays checks whether the specific “advertisement

recipient client” (*i.e.* a client running on the communications device) should receive the advertisement by checking if it has been approved for that client.

126. Another example is Hays’s disclosure that “[o]nly advertisements that can provide the correct media format for the requested destination and that have been specifically approved to be displayed within the client may be included in the set of advertising.” *Id.* Thus, Hays describes checking if advertisements are “specifically approved to be displayed” before it is included in the set of advertising that is uploaded to the device.

127. Hays also discloses that “the advertising matching and weighting system 220” uses “frequency caps (e.g. a limit as to a number of times a particular advertisement is displayed in a single game session or level/location in the game),” which is another example of its system checking if the device should receive the advertisement before it is sent to the mobile communications device. *Id.*, ¶45.

7. Claim 7: The system of claim 1, wherein the server is further configured to track the distribution of updated content.

128. In my opinion, Hays discloses Claim 7.

129. For example, Hays discloses “a record in the active session database 124, which registers the game player as the first member of the new session and is used to track and record all communications and data sent to and received from the advertisement recipient client 104,” *i.e.* the mobile communication device. Ex. 1005,

¶38. Since all data is recorded, this would include tracking what has been uploaded to the mobile communication device.

130. Hays also discloses that “the active session database 124 record the advertisements that have been delivered to a session,” which allows the system to implement “frequency caps (e.g. a limit as to a number of times a particular advertisement is displayed in a single game session or level/location in the game).” *Id.*, ¶45. In other words, in order to implement “frequency caps,” the system must know how many times a particular advertisement has been provided to the mobile device, which indicates that system tracks what has been uploaded to the mobile communication device.

131. Hays also discloses “services that track and audit the quality of presentation of the in-game advertisements,” including “advertisement impressions (which quantify the presentation qualities—e.g., viewing angle, percent screen size, time on screen, etc.—of an advertisement as presented in any given instance).” *Id.*, ¶25. In order to track such information about advertisements, the system would also need to track which advertisements were uploaded to the mobile device in my opinion.

8. Claim 8: The system of claim 1, wherein the server is further configured to check for availability of bandwidth

before sending the updated content to the mobile communication device.

132. In my opinion, Hays discloses Claim 8.

133. For example, Hays discloses that “advertisements may be downloaded ‘in the background’ [sending updated content to the mobile communication device] during times when the advertisement recipient client 104 is connected to the advertisement management service system 108 [availability of bandwidth], including when the gaming device is performing other tasks.” Ex. 1005, ¶34. Hays also teaches that “[c]ommunication between the advertisement server and the gaming device may be done sporadically, [or] periodically.” *Id.*, ¶21. A POSITA would have understood from this discussion that the server of Hays checks for the availability of bandwidth in order to download updated content to the mobile communication device, including check for the availability of a connection with the mobile device or the availability of unused bandwidth that would allow advertisements to be downloaded “in the background” without interfering with other tasks.

134. In addition, Hays teaches that advertisement data may be provided “by alternative means/media,” including “cable connections, satellite, telephone line, etc.” *Id.*, ¶34. A POSITA would have known that each of these different communications means support different bandwidths, and that the server would thus

need to check which means is being used to communicate with the mobile device (and whether and how much bandwidth is available using that communications means) before sending updated content to the mobile device—particularly in light of Hays’s teachings about sending updated data “periodically,” “sporadically,” or “in the background. *Id.*, ¶¶21, 34.

9. Claims 9-16

135. The language of claims 9-16 is nearly identical to that of claims 1-8, except that claims 9-16 are method claims whereas claims 1-8 are system claims. In any case, it is my opinion that Hays renders claims 9-16 obvious for the same reasons I discussed above for claims 1-8. A mapping of each limitation in claims 9-16 to their corresponding limitation in claims 1-8 is shown below.

Claim Limitation	Corresponding Claim Limitation(s)
9[pre]	1[pre]
9[a]	1[a]
9[b]	1[b] and 1[c]
9[c]	1[d]
9[d]	1[e]
9[e]	1[f]
10	2
11	3
12	4

Claim Limitation	Corresponding Claim Limitation(s)
13	5
14	6
15	7
16	8

B. Ground 2: Hays in Further View of Choi Render Obvious Claims 1-16

136. As I discussed above in Ground 1, Hays renders obvious claims 1-16. However, it is my opinion that the combination of Hays and Choi provides an additional reason for why limitations 1[e] and 9[d] and dependent claims 3-4, 8, 11-12, and 16 are obvious. Thus, it is my opinion that the combination of Hays and Choi renders obvious claims 1-16.

1. Rationale to Combine Hays and Choi

137. In my opinion, a POSITA would have found it obvious to modify Hays's system for providing advertisements to a mobile game by incorporating Choi's teachings of carrier-based and location-specific advertising.

138. I understand that references cannot be combined as obvious unless they are analogous art to the challenged patent, *e.g.* that they are directed to the same field of endeavor. In my opinion, Hays and Choi are analogous art to the '056 patent, as they all are directed to delivering updated content, such as advertisements, to video games. *See* Ex. 1001, Abstract ("Systems and methods for updating content of a

mobile video game allow for mobile communication devices to receive updated content for video games that operate on the devices.”); Ex. 1005, ¶17 (“An advertisement delivery scheme and associated computerized facility allow advertisers to deliver their campaign messages to specific audiences they wish to target across one or multiple game titles played across multiple platforms (e.g., PC, console, mobile, etc.) ...”); Ex. 1006, Abstract, ¶3 (“Methods and systems for managing distribution and retrieval of data (for example advertising content and viewing statistics) ... into pre-existing mobile applications” such as “portable game consoles”).

139. In my opinion, a POSITA would have been motivated to combine Hays with Choi’s teaching of “request[ing] demographic information from the carrier” of the mobile communication device to use in the selection of advertisements, as well as Choi’s teaching of using “GPS location information to request location-specific advertising” and “characteristic[s] of the target device environment” such as “network transport capabilities (such as TCP vs WAP) and speed (bandwidth and latency).” Ex. 1006, ¶¶84, 43, 89.

140. A POSITA would have been motivated to use Choi’s teaching of requesting and using demographic information from the carrier. A POSITA would be motivated to request and use such information as taught by Choi because of the information’s well-known benefits for targeted advertising without impinging

privacy concerns and regulations. As Choi explains, “[i]t is generally not permissible by advertising industry standard practices to transmit or store any user-related information in such a way that the user identity can be determined from that information.” Ex. 1006, ¶84. However, some information about the user can be inferred by the user’s carrier because “a users’ carrier implies a certain demographic.” *Id.*, ¶86, ¶96 (“[S]ome carriers have users that are older, younger, businesses, family, etc.”). Choi teaches that the carrier identity is either “typically known at application download time” or can be obtained by having the mobile communication device “send[] a text message to an email address monitored by the ad server” because “the source address domain will identify the carrier.” *Id.*, ¶86. Thus, carrier information provides a simple way of making a rough determination about a user’s demographic without impinging on privacy concerns.

141. A POSITA would further be motivated because Hays already discloses that its advertising system selects targeted advertising based on “predicted demographic information about the players.” Ex. 1005, ¶36. However, Hays does not expressly describe how to obtain such predicted demographic information. A POSITA would understand that Choi provides one way of obtaining predicted demographic information by obtaining the user’s carrier, which “implies a certain demographic.” Ex. 1006, ¶86. Thus, in my opinion, this combination is the application of a known technique (demographic information from the carrier) to a

known device ready for improvement (Hays's system for targeted advertisements) to yield predictable results.

142. It is also my opinion that a POSITA would be motivated to request and use GPS location of the mobile device as taught by Choi because of the information's well-known benefits for targeted advertising. In particular, Choi teaches that its "Ad Manager module can use GPS location information to request location-specific advertising content from the network server." Ex. 1006, ¶43. A POSITA would be motivated to use GPS location because the GPS location of the mobile communication device (and therefore of the user) is highly relevant information for targeted advertising. A POSITA would know that, for example, advertisements for services, retailers, and restaurants near the user would be far more relevant than those that are not near the user.

143. A POSITA would be further motivated because Hays already describes "select[ing] advertisements based upon a variety of factors, including location." Ex. 1005, ¶30; *see also* ¶44. But Hays does not expressly describe how a user's geographic location is determined. A POSITA would understand that Choi provides one well-known method (indeed, one of the most accurate methods) for obtaining a user's location: the device's GPS location information, which reflects the same location as the user when the user is using the device to play a game. Thus, it is my opinion that this combination is the application of a known technique (GPS location)

to a known device ready for improvement (Hays's system for targeted advertisements) to yield predictable results.

144. In my opinion, a POSITA would be motivated to request and use such information as taught by Choi because of the information's well-known benefits for targeted advertising. In particular, Choi teaches that its "mobile advertising system can...select ads based on ad targeting objectives as described above but selects creatives from within an ad collection based on the capabilities of the device environment to which the ad is to be served." Ex. 1006, ¶43.

145. A POSITA would also be motivated to use bandwidth-related information as taught by Choi in Hays's system because it is highly relevant information for targeted advertising. In my opinion, a POSITA would know for instance, that advertisements requiring more bandwidth would not be appropriate for mobile devices operating with low bandwidth and that selection of advertisements based on bandwidth would assist with improved display of that content.

146. A POSITA would be further motivated because Hays already describes that "advertisements may be downloaded 'in the background' [i.e., sending updated content to the mobile communication device] during times when the advertisement recipient client 104 is connected to the advertisement management service system 108 [i.e., availability of bandwidth], including when the gaming device is performing other tasks." Ex. 1005, ¶34. Thus, this combination is the application

of a known technique (checking and accounting for available bandwidth to transmit) to a known device ready for improvement (Hays's system for targeted advertisements) to yield predictable results. *Id.*

147. A POSITA would have reasonably expected the proposed Hays and Choi combination to succeed. Choi describes a simple method for determining information about the mobile communication device, including carrier, and capabilities of the mobile device and its environment (e.g. location and available bandwidth). And a POSITA would already understand that the device's GPS location could be obtained from the device's GPS chipset, and that bandwidth information may be obtained using conventional network communication techniques. Thus, I believe that incorporating Choi's teachings into Hays would be well within the capabilities of a POSITA, because such modifications would be straightforward to implement. Indeed, Hays already provides systems and methods for receiving and handling such information to be used in targeted advertising.

2. Elements 1[e] and 9[d]

148. In my opinion, the combination of Hays and Choi renders obvious limitations 1[e] and 9[d], and therefore in conjunction with my analysis in Ground 1, renders obvious claims 1-16.

149. For instance, Choi describes that "the ad server returns the content to the [mobile] application [i.e., on the mobile communication device]" and that "ad

content can include meta-data such as the following: CPM (cost per mille impressions), CPA (cost per action), ad priority or desired sequencing relative to other ads, desired inventory placements, desired impressions frequency, desired maximum impressions, desired duration of each impression, desired impressions times and geographic locations, and expiration date.” Ex. 1006, ¶78.

150. Further, Choi discloses performing “ad targeting” through the use of “user demographic and contextual information.” Ex. 1006, ¶83. One source of demographic information is “from the carrier” because “a users’ carrier implies a certain demographic.” *Id.*, ¶86; *see also* ¶96 (“[S]ome carriers have users that are older, younger, businesses, family, etc.”). Choi teaches that the carrier can be obtained by having the mobile application “communicate its carrier identity by sending a text message to an email address monitored by the ad server; the text message will be sent as an email, and the source address domain will identify the carrier.” *Id.*, ¶86.

151. As I discussed above, in the Hays-Choi combination, Hays uses demographic information for selection of advertisements, which includes the demographic information obtained from the mobile device’s carrier as taught by Choi. As a result, the Hays-Choi combination renders obvious this limitation.

3. Claims 3 and 11

152. In my opinion, the combination of Hays and Choi renders obvious claim 3, which recites “[t]he system of claim 2, wherein the promotional content comprises localized promotional content based on a location of the mobile communication device.” In my opinion, for the same reasons, the combination of Hays and Choi renders obvious claim 11, which recites “[t]he method of claim 10, wherein the promotional content is localized promotional content based on a location of the mobile communication device.”

153. Choi discloses “ad targeting [that] depends on ... tracking usage location based on GPS.” Ex. 1006, ¶83. For example, Choi discloses that “the Ad Manager module can use GPS location information to request location-specific advertising content from the network server.” *Id.*, ¶43.

154. As I discussed above, in the Hays-Choi combination, Hays uses geographic information for selection of advertisements, which includes the GPS location information obtained from the mobile connection device as taught by Choi in my opinion. As a result, the Hays-Choi combination renders obvious this limitation.

4. Claims 4 and 12

155. In my opinion, the combination of Hays and Choi renders obvious claim 4, which recites “[t]he system of claim 1, wherein identifying what in-game

video game content to send is based on a model type associated with the mobile communication device, a service subscription associated with the mobile communications device, a service provider for the service subscription associated with the mobile communication device, or a location of the mobile communications device.” In my opinion, for the same reasons, the combination of Hays and Choi renders obvious claim 12, which recites “[t]he method of claim 9, wherein identifying what in-game video game content to send is based on a model type associated with the mobile communication device, a service subscription associated with the mobile communications device, a service provider for the service subscription associated with the mobile communication device, or a location of the mobile communications device.”

156. I discuss how Choi discloses selecting advertisements (i.e. in-game video game content and associated metadata and messages) based on the service provide associated with a mobile device with respect to limitations 1[e] and 9[d] above. I also discuss how Choi discloses selecting advertisements based on GPS location with respect to claims 3 and 11 above. For the same reasons, Choi discloses identifying what in-game video game content to send based on the these factors.

5. Claims 8 and 16

157. In my opinion, the combination of Hays and Choi renders obvious claim 8, which recites “[t]he system of claim 1, wherein the server is further

configured to check for availability of bandwidth before sending the updated content to the mobile communication device.” In my opinion, for the same reasons, the combination of Hays and Choi renders obvious claim 16, which recites “[t]he method of claim 9, wherein the server checks for availability of bandwidth before sending the updated content to the mobile communication device.”

158. Choi discloses that content may be selected “from within an ad collection based on the capabilities of the device environment to which the ad is to be served,” and that such “capabilities” include “any characteristic of the target device environment” such as “network transport capabilities (such as TCP vs WAP) and speed (bandwidth and latency).” Ex. 1006, ¶89.

159. As I discussed above, in the Hays-Choi combination, Hays uses client information for selection of advertisements, which includes network transport capabilities and bandwidth information obtained from the mobile connection device as taught by Choi. As a result, it would be obvious to a POSITA that in the Hays-Choi combination, the server checks for availability of bandwidth before sending in-game video game content to the mobile communication device.

**C. Ground 3: Hays (or Hays and Choi) in Further View of Chu
Render Obvious Claims 5 and 13**

160. As I discussed above in Grounds 1 and 2, Hays (or Hays and Choi) renders obvious claims 5 and 13. However, it is also my opinion that Hays when

further combined with Chu provides an additional theory of obviousness for claims 5 and 13.

1. Rationale to Combine Hays with Chu

161. In my opinion, a POSITA would have found it obvious to modify Hays's system for providing advertisements to a mobile game by incorporating Chu's teachings of requesting and receiving advertisements for specific in-game locations.

162. I understand that in order to combine references into an obviousness combination, they must be analogous art, which can be established by showing the references are directed to the same field of endeavor as the '056 Patent. In my opinion, Hays, Chu and the '056 Patent are analogous art, as they are all directed to delivering updated content, such as advertisements, to video games. *See* Ex. 1001, Abstract ("Systems and methods for updating content of a mobile video game allow for mobile communication devices to receive updated content for video games that operate on the devices."); Ex. 1005, ¶17 ("An advertisement delivery scheme and associated computerized facility allow advertisers to deliver their campaign messages to specific audiences they wish to target across one or multiple game titles played across multiple platforms (e.g., PC, console, mobile, etc.) ..."); Ex. 1007, Abstract ("[A]n online game advertising system ... for enabling ... interactive advertisements ... that appear within an online video game.").

163. In my opinion, a POSITA would have been motivated to combine Hays with Chu's teaching of a video game requesting "advertising metadata and schedules that determine what advertisements are to display in specified locations within the game," and in turn receiving advertisements that include "[a] location object (530, 630) [that] represents the location within a game at which advertisements are to appear." Ex. 1007, 14:20-15:5.

164. A POSITA would have been motivated to use Chu's teachings of the server providing to the client the specific in-game locations of advertisements because of the well-known benefits of being able to display advertisements at in-game locations. For example, Chu explains that "[a] campaign in one embodiment is a grouping of related advertisements that are scheduled or configured to display in a common location during a common time period." Ex. 1007, 9:66-10:1. Thus, a POSITA would be motivated by the benefit of increased advertising sales through the ability for a server to designate which popular in-game locations would display which advertisements. Moreover, advertisements could be targeted to relevant in-game locations, such as displaying an advertisement for a soft drink in an in-game restaurant.

165. Another thing that would further motivate a POSITA is the fact that Hays already discloses that its advertising system provides for targeted advertising for specific in-game locations. For example, Hays discloses "available ad units"

which are “spaces” that include “pre-designated geometry within the game, such as billboards, storefront signs, panel trucks, Jumbotron screens, in a sports stadium, posters on walls, T-shirts on a game character, items used by game characters ..., and so on.” Ex. 1005, ¶18. To the extent Patent Owner argues that Hays does not explicitly disclose that such locations are provided by the ad server (which I disagree with as explained above in Ground 1), a POSITA would be motivated to include Chu’s teachings of providing in-game locations for specific advertisements in order to control the location and viewing of advertisements. Thus, in my opinion, this combination is the application of a known technique (ad server providing in-game location for specific advertisements) to a known device ready for improvement (Hays’s system that designates specific in-game locations for advertisements) to yield predictable results.

166. A POSITA would have reasonably expected the proposed Hays and Chu combination to succeed. Chu describes a simple method for requesting and receiving advertisements for specific in-game locations. And Hays describes using specific in-game locations to display advertisements. Thus, incorporating Chu’s teachings into Hays would be well within the capabilities of a POSITA, because such modifications would be straightforward to implement. A POSITA would know how to include in-game locations when sending advertisement information from a server to a device.

2. Claims 5 and 13

167. In my opinion, the combination of Hays with Chu renders obvious claims 5 and 13, which recite “the server is further configured to send information to the mobile communication device regarding the in-game placement location of the in-game video game content” (Claim 5) and “sending information from the server to the mobile communication device regarding the in-game placement location of in-game video game content” (Claim 13).

168. Chu discloses that a video game requests “advertising metadata and schedules that determine what advertisements are to display in specified locations within the game,” and in turn receiving advertisements that include “[a] location object (530, 630) [that] represents the location within a game at which advertisements are to appear.” Ex. 1007, 14:20-15:5.

169. As I discussed above, in the Hays-Chu combination, Hays already displays advertisements at specific in-game locations. Hays’s system implements this functionality in the combined system by applying Chu’s teachings of requesting and receiving advertisements at specific in-game locations. As a result, the Hays-Chu combination renders obvious this limitation.

D. Ground 4: Levkovitz Alone Renders Obvious Claims 1-16

170. For the reasons set forth in detail below, and based on my review of the ’056 Patent, file history, and the prior art references cited in my analysis, a POSITA

would have readily understood that the teachings of Levkovitz alone render obvious all elements of claims 1-16.

1. Claim 1

a) *Element 1[pre]: A system for providing updated content associated with a mobile video game to a mobile communication device, the system comprising:*

171. To the extent the preamble is limiting, in my opinion, Levkovitz discloses this limitation.

172. For example, Levkovitz discloses providing “contextual and/or noncontextual placement of content, e.g., advertisements or banners [*i.e.* the claimed ‘updated content’], within an application executed by a cellular phone, a mobile phone, or other wireless communication device [*i.e.* the claimed ‘mobile communication device’].” Ex. 1008, ¶5. The application could be “games for mobile phones,” *i.e.* a mobile video game. *Id.*, ¶6; *see also* ¶123 (“The application 176 may be ... a game”), ¶127 (“a first application 176 (e.g., a chess game)”, “a second application 176 (e.g. a racing game).”). Since the advertisements are placed within a video game, they are, in my opinion, associated with a mobile video game.

b) *Element 1[a]: a storage medium for storing in-game video game content;*

173. In my opinion, Levkovitz discloses this limitation.

174. For example, Levkovitz discloses that “the server may include a memory unit [*i.e.* the claimed ‘storage medium’] to store a plurality of content items

[*i.e.* the claimed ‘in-game video game content’] from which the content item is selected.” Ex. 1008, ¶12. Levkovitz also teaches that “ad server 150 may ... search a content items repository 118 [*i.e.* the claimed ‘storage medium’] within ad server 110 for one or more content items [*i.e.* the claimed ‘in-game video game content’].” *Id.*, ¶126. Levkovitz further describes that these servers may include specific types of storage media such as “memory, removable or non-removable media, erasable or non-erasable media; writeable or re-writeable media, digital or analog media, hard disk, floppy disk, Compact Disk Read Only Memory (CD-ROM), Compact Disk Recordable (CD-R), Compact Disk Re-Writeable (CD-RW), optical disk, magnetic media, various types of Digital Versatile Disks (DVDs), a tape, a cassette, or the like.” *Id.*, ¶387. Moreover, a POSITA would readily understand that Levkovitz’s servers include a “medium” for storing (such as a hard drive, memory, etc.) since they store content items. A POSITA would understand that the “content items” are electronic items stored on one of these examples of storage media.

175. In my opinion, Levkovitz clearly teaches that a “content item” is, for example, an “advertisement,” including in-game video content, such as advertising. *Id.*, ¶152. For example, Levkovitz teaches that these “content items” are “directed for presentation using a first application 176 (e.g., a chess game),” and are therefore for use in a video game. *Id.*, ¶127. The content items are “previously stored in the content items repository 118” and are therefore stored. *Id.*, ¶126; *see also* ¶147

(“Data transferor 124 may distribute content items to ad server(s) 110 periodically and/or in advance.”).

c) *Element 1[b]: a server in communication with the storage medium; and*

176. In my opinion, Levkovitz discloses this limitation.

177. For example, Levkovitz discloses that “the server may include a memory unit [*i.e.* the claimed ‘storage medium’] to store a plurality of content items” and that “the server... cop[ies] the content of the volatile memory into a non-volatile memory” of the memory unit, thereby indicating that the server communicates with the memory unit, including its storage medium, in order to store advertisements in said medium. Ex. 1008, ¶¶12-14. Levkovitz further discloses that “ad server 150 ... may search a content items repository 118 [*i.e.* the claimed ‘storage medium’] within ad server 110 for one or more content items,” which indicates that the server communicates with the item repository, including its storage medium. *Id.*, ¶126.

d) *Element 1[c]: wherein the server is configured to: receive a request for updated content from the mobile communication device;*

178. In my opinion, Levkovitz discloses this limitation.

179. For example, Levkovitz discloses that “games for mobile phones” may “request content” (*i.e.* the claimed “updated content”) from an “ad server” which will “selectively serve content items to the content client, based on parameters related to the mobile phone.” Ex. 1008, ¶6.

180. Similarly, in my opinion, Levkovitz discloses that “device 170,” which may be “a wireless communication device, a wireless communication station, ... a wireless phone, a mobile phone” (*id.*, ¶175 (describing many more examples)), may include an application 176” which “may be ... a game.” *Id.*, ¶123. The application has “a content client 174” which sends “a wireless signal indicating a request (‘request for updated content’) to receive one or more content items, e.g., ... advertisement.” *Id.*

181. Levkovitz further discloses that the server receives the request in my opinion. The “ad server 110” receives content requests from a mobile communication device via “communicator 150.” Ex. 1008, ¶126. The content request is “received by communicator 150” which is “operatively connected” to “ad server 110.” Ex. 1008, ¶¶125-126 (“Ad server 110 may process content requests stored in the queue 158 of communicator 150.”); ¶165 (“Communicator 150 ... may transfer a formatted content request to ad server 110.”).

e) Element 1[d]: identify, in response to receiving the request, what in-game video game content to send;

182. In my opinion, Levkovitz discloses this limitation.

183. For example, Levkovitz discloses that “Ad server 110 may process content requests” by “search[ing] a content items repository 118 within an ad server 110 for one or more content items [*i.e.* the claimed ‘in-game video game content’]

which match the requirements of the content request,” meaning it utilizes the request to identify which advertising to send. Ex. 1008, ¶126. The “ad server 110 may selectively determine which content items ... match the content request being processed, e.g. using queries, filters, selection rules, capping rules, or other conditions or criteria.” *Id.* For example, the server selects an advertisement “based on properties of device 170, e.g., handset model, screen resolution, screen color depth, audio capabilities, total memory, available memory, types of content items which the device 170 is capable to present, or the like.” *Id.* Thus, Levkovitz discloses that it identifies advertisements in response to the request to determine the requested conditions for the selected advertisements.

f) Element 1[e]: send a message relating to the in-game video game content to the mobile communication device in response to receiving the request, wherein the message is pre-selected by the server based on a model type associated with the mobile communication device, a service subscription associated with the mobile communication device, or a service provider for the service subscription associated with the mobile communication device; and

184. In my opinion, Levkovitz discloses this limitation.

185. For example, Levkovitz discloses that after the device requests content from an “ad server,” the “ad server may selectively serve content items to the content client, based on parameters related to the mobile phone, e.g., manufacturer identifier, model identifier, available memory, presentation capabilities, or the like.” Ex. 1008,

¶6. Levkovitz similarly teaches that the “ad server 110 may select one or more content items which may be adequately presented by device 170 based on properties of device 170, e.g., *handset model*....” *Id.*, ¶126. These parameters, especially the manufacturer and model identifiers or the handset model, correspond to and identify “a model type associated with the mobile communication device.”

186. The same parameters are also used to select a “message relating to the in-game video game content.” For example, Levkovitz explains that in response to request from the mobile communication device, the server “may further transmit to device 170 ... together with the content item(s) ..., one or more presentation rules associated with the transmitted content items.” Ex. 1008, ¶129. These rules include “for example, a capping rule to cap the number of times that a certain content item may be presented, e.g., within a certain time period; a capping rule to cap the number of times that a certain type of content items (e.g., animated content items, large-sized content items, audio content items) may be presented within a certain time period; a rule instructing device 170 to present a certain content item at a certain time or within a certain time window; a rule instructing device 170 to present the content items in accordance with a certain order or priority scheme; or other suitable rules or data to control the presentation of the content items.” *Id.* These rules are all “messages relating to in-game video game content” according to the specification of the ’056 Patent because they “specify details about the available updated content,” such as

which advertisements may be displayed and how and when they will be displayed.
Ex. 1001, 10:1-3.

187. In my opinion, because the advertisements are selected based on a model type of a mobile communication device, the presentation rules (*i.e.* “messages related to in-game video game content”), which are associated with particular advertisements, are also necessarily selected based on the model type of the mobile communication device. For example, Levkovitz teaches that capping rules (one example of a presentation rule) are “pre-defined rules, e.g. *specific* campaign-related rules” that “cap the number of times that a *certain content item* may be presented.” *Id.*, ¶¶129, 142. In other words, when a server selects a particular advertisement (based parameters including the model type of the mobile communication device), the pre-defined presentation rules associated with the particular advertising campaign that includes that advertisement will also be selected (based on the same parameters), and the presentation rule (*i.e.* the “message relating to the in-game video game content”) will be sent to the device along with the advertisement.

g) *Element 1[f]: send the in-game video game content to the mobile communication device as the updated content for the mobile video game.*

188. In my opinion, Levkovitz discloses this limitation.

189. For example, Levkovitz discloses that an “ad server” may “serve content items [*i.e.* the claimed ‘in-game video game content’] directed for

presentation using a first application 176 (e.g., a chess game).” Ex. 1008, ¶127. The “[d]evice 170 may present the content item(s),” such as “within application 176, during or together with the execution of application 176.” *Id.*, ¶131. For example, “the user may complete a level in the game, and the first advertisement may be presented.” *Id.*, ¶320. Because the presentation of the advertisement is within a game and provides ever-updating content for display, it is “in-game video game content” that is sent to the mobile communication device as “updated content for the mobile video game.”

190. As I discussed above for limitation 1[pre], the “device 170” is a mobile communications device.

2. Claim 2: The system of claim 1, wherein the updated content comprises promotional content.

191. In my opinion, Levkovitz discloses Claim 2 because, as I discussed above for claim 1, Levkovitz discloses requesting and receiving advertisements, which are promotional content.

3. Claim 3: The system of claim 2, wherein the promotional content comprises localized promotional content based on a location of the mobile communication device

192. In my opinion, Levkovitz discloses Claim 3.

193. For example, Levkovitz discloses a “presentation rule” where “an advertisement for a certain shop, be presented when device 170 is geographically located within a pre-defined distance (e.g., 300 meters) of the address of that shop.”

Ex. 1008, ¶187. These presentation rules are provided by “communicator 150” to “device 170 ... together with the content item(s).” *Id.*, ¶129. In other words, an advertisement is selected to be displayed based on the location of the mobile device, specifically its proximity to a particular shop.

4. **Claim 4: The system of claim 1, wherein identifying what in-game video game content to send is based on a model type associated with the mobile communication device, a service subscription associated with the mobile communications device, a service provider for the service subscription associated with the mobile communication device, or a location of the mobile communications device.**

194. In my opinion, Levkovitz discloses Claim 4.

195. As I discussed above for limitation 1[e], Levkovitz selects advertisements (and their associated messages) for delivery based on parameters including the model type associated with the mobile communication device. For example, Levkovitz discloses that after the device requests content from an “ad server,” the “ad server may selectively serve content items to the content client, based on parameters related to the mobile phone, e.g., manufacturer identifier, model identifier, available memory, presentation capabilities, or the like.” Ex. 1008, ¶6. Levkovitz similarly teaches that the “ad server 110 may select one or more content items which may be adequately presented by device 170 based on properties of device 170, e.g., *handset model...*” *Id.*, ¶126. These parameters, especially the

manufacturer and model identifiers or the handset model, correspond to and identify “a model type associated with the mobile communication device.”

196. In addition, as I discussed above for claim 3, Levkovitz teaches that advertisements may be selected based on a “presentation rule” where “an advertisement for a certain shop, be presented when device 170 is geographically located within a pre-defined distance (e.g., 300 meters) of the address of that shop.” Ex. 1008, ¶187. Thus, ads may also be selected based on the location of the mobile communication device (i.e. its proximity to a particular address or other geographical location).

5. Claim 5: The system of claim 1, wherein the server is further configured to send information to the mobile communication device regarding the in-game placement location of the in-game video game content.

197. In my opinion, Levkovitz discloses Claim 5.

198. For example, Levkovitz discloses that an “ad server” may “serve content items [*i.e.* “in-game video game content”] directed for presentation using a first application 176 (e.g., a chess game).” Ex. 1008, ¶127. Levkovitz also discloses that such “content items may have multiple versions corresponding to a descriptive property of device 170, e.g., a full-size content item which *may fill the entire screen of device 170*, a half-screen size content item which may occupy approximately *one half of the screen of device 170*, a quarter-screen size content item which may

include a square-shaped or rectangular content item which may *occupy approximately one quarter of the screen of device 170*, or the like.” Ex. 1008, ¶133.

A POSITA would have understood that for ads that occupy less than the entire screen, the mobile communication device would need information indicating where to display the ad within the application (i.e. the in-game placement location of the ad). It would have been obvious to a POSITA that this information may be sent from Levokvitz’s ad server—particular since Levokvitz already discloses that the ad server selects which ads to send to the mobile communication device, and sends “presentation rules” that control how the ad will be presented at the mobile communication device. *See, e.g., id.*, ¶129 (discussing presentations rules).

6. Claim 6: The system of claim 1, wherein the server is further configured to check whether the mobile communication device should receive the updated content before sending the updated content to the mobile communication device.

199. In my opinion, Levkovitz discloses Claim 6.

200. For example, Levkovitz discloses that “the server is to serve the content item if a number of previously-served content items is smaller than a pre-defined quota.” Ex. 1008, ¶22. Moreover, the “ad server 110 may selectively determine which content items ... match the content request being processed, e.g. using queries, filters, selection rules, capping rules, or other conditions or criteria.” *Id.*, ¶126. The ad server can also select content items based on “types of content items which the

device 170 is capable to present.” *Id.* All of these are examples of, prior to sending the updated content, the system checking whether the mobile communication device should receive a particular advertisement, based on whether or not the advertisement meets applicable filters or capping rules, and whether or not the mobile communication device is capable of presenting the advertisement.

7. Claim 7: The system of claim 1, wherein the server is further configured to track the distribution of updated content.

201. In my opinion, Levkovitz discloses Claim 7.

202. For example, Levkovitz discloses that “[c]ontrol server 120,” which is coupled to “ad server 110,” “may monitor and track the distribution of content items among multiple ad servers 110.” Ex. 1008, ¶143. Levkovitz also discloses that “[a]d server 110 may ... store in memory unit 118 a log tracking the activity or servings done by ad server 110.” *Id.*, ¶154. Levkovitz also discloses that “[c]ommunicator 150 may further store in memory unit 159 a log tracking the activity or transmission done by communicator 150,” which includes advertisements (*i.e.* updated content) “transmit[ted] ... to device(s) 170.” *Id.*, ¶171.

8. Claim 8: The system of claim 1, wherein the server is further configured to check for availability of bandwidth before sending the updated content to the mobile communication device.

203. In my opinion, Levkovitz discloses Claim 8.

204. For example, Levkovitz discloses that “ad selector 113 may process or parse the content request received from communicator 150 to obtain information about the device 170 from which the content request originated, and may correlate between such device information and content items attributes accommodating such information.” Ex. 1008, ¶160. Further, Levkovitz discloses that that system may “receive content request data, for example, information about device 170, information about the functional capabilities of device 170 ... and other suitable parameters.” *Id.*, ¶172. In my opinion, a POSITA would understand that “information about the device” and/or “other suitable parameters” would include information about the availability of bandwidth, i.e., the connection between the device and the server. This is particularly true because Levkovitz recognizes that “operations, in which content is downloaded to or uploaded from the wireless device, may consume system resources *and bandwidth resources*.” *Id.*, ¶3. A POSITA would thus understand that the server may need to check for the availability of bandwidth resources before uploading content to the mobile communication device.

9. Claims 9-16

205. The language of claims 9-16 is nearly identical to that of claims 1-8, except that claims 9-16 are method claims whereas claims 1-8 are system claims. In any case, it is my opinion that Levkovitz renders claims 9-16 obvious for the same

reasons I discussed above for claims 1-8. A mapping of each limitation in claims 9-16 to their corresponding limitation in claims 1-8 is shown below.

Claim Limitation	Corresponding Claim Limitation(s)
9[pre]	1[pre]
9[a]	1[a]
9[b]	1[b] and 1[c]
9[c]	1[d]
9[d]	1[e]
9[e]	1[f]
10	2
11	3
12	4
13	5
14	6
15	7
16	8

E. Ground 5: Levkovitz in View of Chu Render Obvious Claims 5 and 13

1. Rationale to Combine Levkovitz with Chu

206. In my opinion, a POSITA would have found it obvious to modify Levkovitz's system for providing advertisements to a mobile game by incorporating

Chu's teachings of requesting and receiving advertisements for specific in-game locations.

207. As I discussed above, Chu and the '056 Patent are analogous art, as they are both directed to delivering updated content, such as advertisements, to video games. Levkovitz is also directed to the same subject matter. *See* Ex. 1008, Abstract ("Devices, systems and methods of presentation of delivering targeted advertisements using Wireless Application Protocol."); ¶123 ("The application 176 may be, for example, a game ...").

208. In my opinion, a POSITA would have been motivated to combine Levkovitz with Chu's teaching of a video game requesting "advertising metadata and schedules that determine what advertisements are to display in specified locations within the game," and in turn receiving advertisements that include "[a] location object (530, 630) [that] represents the location within a game at which advertisements are to appear." Ex. 1007, 14:20-15:5.

209. A POSITA would have been motivated to use Chu's teachings of the server providing to the client the specific in-game locations of advertisements because of the well-known benefits of being able to display advertisements at in-game locations. For example, Chu explains that "[a] campaign in one embodiment is a grouping of related advertisements that are scheduled or configured to display in a common location during a common time period." Ex. 1007, 9:66-10:1. Thus,

a POSITA would be motivated by the benefit of increased advertising sales through the ability to display ads in a popular in-game location. Moreover, advertisements could be targeted to relevant in-game locations, such as displaying an advertisement for a soft drink in an in-game restaurant.

210. Another reason a POSITA would be motivated is because Levkovitz already discloses that its advertising system provides for targeted advertising using pre-defined rules for controlling where, when, and how advertisements will be displayed within the game. For example, Levkovitz discloses that the “[s]elector 172 may select ... one or more content items for presentation, e.g., content items matching one or more rules, conditions or criteria related to the content items or to properties associated with their presentation.” Ex. 1008, ¶186. The specific in-game locations for advertisements described by Chu are also a “propert[y] associated with [the advertisements’] presentation.” Thus, in my opinion, this combination is the application of a known technique (ad server providing in-game location for specific advertisements) to a known device ready for improvement (Levkovitz’s system that allows for conditions for the presentation of advertisements) to yield predictable results.

211. A POSITA would have reasonably expected the proposed Levkovitz and Chu combination to succeed. Chu describes a simple method for requesting and receiving advertisements for specific in-game locations. And Levkovitz describes

applying conditions and properties to the presentation of in-game advertisements. Thus, incorporating Chu's teachings into Levkovitz would be well within the capabilities of a POSITA, because such modifications would be straightforward to implement.

2. Claims 5 and 13

212. In my opinion, the combination of Levkovitz with Chu renders obvious claims 5 and 13, which recite that "the server is further configured to send information to the mobile communication device regarding the in-game placement location of the in-game video game content" (Claim 5) and "sending information from the server to the mobile communication device regarding the in-game placement location of in-game video game content" (Claim 13).

213. Chu discloses that a video game requests "advertising metadata and schedules that determine what advertisements are to display in specified locations within the game," and in turn receiving advertisements that include "[a] location object (530, 630) [that] represents the location within a game at which advertisements are to appear." Ex. 1007, 14:20-15:5.

214. As I discussed above, in the Levkovitz-Chu combination, Levkovitz already allows for setting conditions and properties for the presentation of in-game advertisements (i.e. "presentation rules"), and such properties would include the

received in-game locations for advertisements as taught by Chu. As a result, the Levkovitz-Chu combination renders obvious this limitation.

F. Ground 6: Levkovitz in View of Choi Render Obvious Claims 8 and 16

1. Rationale to Combine Levkovitz with Choi

215. In my opinion, a POSITA would have found it obvious to modify Levkovitz's system for providing advertisements to a mobile game by incorporating Choi's teachings of selecting advertisements based on the capabilities of a mobile device, such as its bandwidth.

216. As I discussed above, Choi and the '056 patent are analogous art, as they are both directed to delivering updated content, such as advertisements, to video games. Ex. 1006, Abstract, ¶3 ("Methods and systems for managing distribution and retrieval of data (for example advertising content and viewing statistics) ... into pre-existing mobile applications" such as "portable game consoles"). Levkovitz is also directed to the same subject matter. *See* Ex. 1008, Abstract ("Devices, systems and methods of presentation of delivering targeted advertisements using Wireless Application Protocol."); ¶123 ("The application 176 may be, for example, a game ...").

217. In my opinion, a POSITA would have been motivated to modify Levkovitz to include Choi's teaching of selecting advertisements to send to a mobile device using information about the mobile device's "capabilities," including

“characteristics of the target device environment” such as “network transport capabilities (such as TCP vs WAP) and speed (bandwidth and latency).” Ex. 1006, ¶89.

218. In my opinion, a POSITA would be motivated to specifically include bandwidth information (as taught by Choi) among the information used by the ad server for delivering updated content to the mobile device because of the well-known benefits of using such information for targeted advertising. In particular, Choi teaches that its “mobile advertising system can ... select ads based on ad targeting objectives as described above but selects creatives from within an ad collection based on the capabilities of the device environment to which the ad is to be served.” Ex. 1006, ¶43. A POSITA would understand that bandwidth-related information is important for selecting appropriate advertisements to send to a particular mobile device. A POSITA would know for instance, that advertisements requiring more bandwidth would not be appropriate for mobile devices operating with low bandwidth. Thus, selection of advertisements based on bandwidth information would optimize the performance of the game by reducing delays in retrieving updated content for display within the game.

219. A POSITA would further be motivated in my opinion because Levkovitz already discloses that its advertising system provides conditions for display of advertisements in a video game, and recognizes that bandwidth may be

an issue when exchanging data between the mobile device and the ad server. For example, Levkovitz discloses that the “[s]elector 172 may select ... one or more content items for presentation, e.g., content items matching one or more rules, conditions or criteria related to the content items or to properties associated with their presentation.” Ex. 1008, ¶186. Further, Levkovitz discloses that that system may “receive content request data, for example, information about device 170, information about the functional capabilities of device 170.” *Id.* ¶172. Levkovitz also points out that transferring content between a server and a mobile device “may consume system resources *and bandwidth resources.*” *Id.*, ¶3.

220. In my opinion, a POSITA would have reasonably expected the proposed Levkovitz and Choi combination to succeed. Choi describes a simple method for determining the mobile communication device’s capabilities, including bandwidth, and selecting ads to deliver based on those capabilities. Levkovitz describes applying conditions and properties to the presentation of in-game advertisements. Thus, in my opinion, incorporating Choi’s teachings into Levkovitz would be well within the capabilities of a POSITA, because such modifications would be straightforward to implement.

2. Claims 8 and 16

221. In my opinion, the combination of Levkovitz and Choi renders obvious claim 8, which recites “[t]he system of claim 1, wherein the server is further

configured to check for availability of bandwidth before sending the updated content to the mobile communication device.” In my opinion, for the same reasons, the combination of Levokvitz and Choi renders obvious claim 16, which recites “[t]he method of claim 9, wherein the server checks for availability of bandwidth before sending the updated content to the mobile communication device.”

222. Choi discloses that content may be selected “from within an ad collection based on the capabilities of the device environment to which the ad is to be served,” and that such “capabilities” include “any characteristic of the target device environment” such as “network transport capabilities (such as TCP vs WAP) and speed (bandwidth and latency).” Ex. 1006, ¶89.

223. As I discussed above, in the Levkovitz-Choi combination, Levkovitz would incorporate as one of its “presentation rules” for selecting advertisements checking the network transport capabilities and bandwidth information obtained from the mobile connection device as taught by Choi. As a result, the Levkovitz-Choi combination renders this limitation obvious.

G. Secondary Considerations

224. I am not aware of any evidence regarding secondary considerations of non-obviousness, and Patent Owner has not identified any such evidence in the patent specification, prosecution history, or related district court complaints. To the

extent Patent Owner identifies evidence of secondary considerations at a later point in the proceeding, I reserve the right to address it at that time.

XIII. CONCLUSION

225. For the aforementioned reasons, a POSITA would have recognized that a number of predictable prior art combinations (articulated in the grounds above) would have achieved all elements of claims 1-16 of the '056 Patent, and that those claims are thus invalid in view of the prior art, for the reasons I have discussed above.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on the information and belief are believed to be true; I declare under penalty of perjury that the foregoing is true and correct, and understand that willful false statements and the like are punishable by fine or imprisonment, or both pursuant to 18 U.S.C. 1001.

Date: November 15, 2023

Respectfully Submitted,

A handwritten signature in blue ink, consisting of stylized, overlapping loops and strokes, positioned above a horizontal line.

Dr. José Zagal