

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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PLR WORLDWIDE SALES LTD.  
*Petitioner*

v.

FLIP PHONE GAMES INC.  
*Patent Owner*

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U.S. Patent No. 9,427,662  
*Inter Partes Review No. 2024-00209*

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**PETITION FOR *INTER PARTES* REVIEW  
UNDER 35 U.S.C. § 312 AND 37 C.F.R. § 42.104**

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**EXHIBIT LIST**

| <b>No.</b> | <b>Exhibit</b>                                                                                                                                                                         |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1001       | U.S. Patent No. 9,427,662 to Hartwell                                                                                                                                                  |
| 1002       | Prosecution history for U.S. Patent No. 9,427,662                                                                                                                                      |
| 1003       | Expert Declaration of Dr. José Zagal                                                                                                                                                   |
| 1004       | International Patent Publication<br>WO 2008/008038 to Ho                                                                                                                               |
| 1005       | U.S. Patent Publication No. 2002/0120589 to Aoki                                                                                                                                       |
| 1006       | International Patent Publication<br>WO 2000/070489 to Jiau <i>et al.</i>                                                                                                               |
| 1007       | U.S. Patent No. 6,928,414 to Kim <i>et al.</i>                                                                                                                                         |
| 1008       | International Patent Publication WO 2006/071246 to Sturman                                                                                                                             |
| 1009       | U.S. Patent No. 8,825,521 to Ellis <i>et al.</i>                                                                                                                                       |
| 1010       | Steven Kent, <i>The Ultimate History of Video Games</i> (2001)                                                                                                                         |
| 1011       | Frans Mayra, “Mobile Games,” in <i>the International Encyclopedia of Digital Communications and Society</i> , 1 <sup>st</sup> ed. (2015)                                               |
| 1012       | N. Leavitt, “Will wireless gaming be a winner?” in <i>Computer</i> , Vol. 36, No. 1, pp. 24-27 (Jan. 2003)                                                                             |
| 1013       | Jason Soh & Bernard Tan, “Mobile Gaming,” in <i>Communications of the ACM</i> , Vol. 51, No. 3, pp. 35-39 (Mar. 2008)                                                                  |
| 1014       | 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) |

| No.  | Exhibit                                                                                                                                                                                                                                                                                                     |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1015 | 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 | Ilya Vedrashko, <i>Advertising in Computer Games</i> (Doc. No. 123290221) [Master’s Thesis, Mass. Inst. of Technology], DSpace@MIT                                                                                                                                                                          |
| 1017 | Exit Games, <i>In-Game Advertising Goes Mobile</i> [Press Release] (Mar. 21, 2006)                                                                                                                                                                                                                          |
| 1018 | Jussi-Pekka Partanen, <i>Mobile Gaming: A Framework for Evaluating the Industry 2000-2005</i> (2001)                                                                                                                                                                                                        |
| 1019 | Exemplary infringement charts for U.S. Patent No. 8,688,662 served by Patent Owner in <i>Flip Phone Games Inc. v. PLR Worldwide Sales Ltd.</i> , No. 2:23-cv-139 (E.D. Tex.)                                                                                                                                |
| 1020 | U.S. Publication No. 2003/0100355 A1 to Hannay                                                                                                                                                                                                                                                              |
| 1021 | Forest J. Handford, East Coast Games – Game Development Glossary (Feb. 20, 2006), available at<br><a href="https://web.archive.org/web/20060220024505/http://www.eastcoastgames.com/design/glossary.html">https://web.archive.org/web/20060220024505/http://www.eastcoastgames.com/design/glossary.html</a> |
| 1022 | U.S. Publication No. 2006/0111979 to Chu                                                                                                                                                                                                                                                                    |
| 1023 | Andre LaMothe, <i>Tricks of the 3D Game Programming Gurus</i> (2003)                                                                                                                                                                                                                                        |
| 1024 | Game Hacking Academy, <i>A Beginner’s Guide to Understanding Game Hacking Techniques</i>                                                                                                                                                                                                                    |

**CHALLENGED CLAIMS**

| <b>Claim 1</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1(pre)         | A method for retrieving and displaying a hot spot associated with a video game operable on a mobile communication device, comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1(a)           | contacting a server for hot spot information to download, comprising providing the server with at least one of: a game for which hot spot information is desired, a scene for which hot spot information is desired, an element for which hot spot information is desired, the model type of the mobile communication device, the service plan to which the mobile device belongs, the service provider for the mobile communications device, the base location of the mobile communication device, the current location of the mobile communication device, a version identifier for hot spot information currently on the mobile communication device, user-identification information, preset location, amount of game-play time, game score, and level of play; |
| 1(b)           | downloading hot spot information from the server to the mobile communication device, the hot spot information comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 1(b)(1)        | hidden content for presenting to the user when the hot spot is activated; and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 1(b)(2)        | coordinate information;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1(c)           | designating a non-promotional location in-game associated with activating the hot spot based on the coordinate information;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1(d)           | displaying an object at the designated non-promotional location; and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1(e)           | displaying the hidden content when the user activates the hot spot.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Claim 2</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2              | The method of claim 1, wherein the hidden content is promotional.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Claim 3</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3              | The method of claim 1, wherein the coordinate information comprises time information for placing the hot spot in-game.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Claim 4</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|                 |                                                                                                                                                                   |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4               | The method of claim 1, wherein the coordinate information comprises one or more predefined in-game locations.                                                     |
| <b>Claim 5</b>  |                                                                                                                                                                   |
| 5               | The method of claim 1, wherein the hot spot information further comprises an object to be displayed in-game at the non-promotional location.                      |
| <b>Claim 6</b>  |                                                                                                                                                                   |
| 6               | The method of claim 1, wherein the hot spot information specifies a type of manipulation required to activate the hot spot.                                       |
| <b>Claim 7</b>  |                                                                                                                                                                   |
| 7               | The method of claim 1, further comprising saving on the mobile communication device a version identifier for the downloaded hot spot information.                 |
| <b>Claim 8</b>  |                                                                                                                                                                   |
| 8               | The method of claim 1, wherein the hidden content comprises one or more objects selected from the group consisting of messages, graphics, animations, and sounds. |
| <b>Claim 9</b>  |                                                                                                                                                                   |
| 9               | The method of claim 8, wherein the hidden content is promotional.                                                                                                 |
| <b>Claim 10</b> |                                                                                                                                                                   |
| 10              | The method of claim 1, wherein the hidden content is displayed in a pop-up window.                                                                                |
| <b>Claim 11</b> |                                                                                                                                                                   |
| 11              | The method of claim 1, wherein the hidden content is displayed on the mobile communication device in a website separate from the video game.                      |
| <b>Claim 12</b> |                                                                                                                                                                   |
| 12              | The method of claim 1, wherein the hidden content comprises a second hot spot.                                                                                    |
| <b>Claim 13</b> |                                                                                                                                                                   |
| 13(pre)         | A method for retrieving and displaying a hot spot associated with a video game operable on a mobile communication device, comprising:                             |

|                 |                                                                                                                                                                    |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13(a)           | contacting a server for hot spot information to download, comprising providing the server with user-identification information;                                    |
| 13(b)           | downloading hot spot information from the server to the mobile communication device, the hot spot information comprising:                                          |
| 13(b)(1)        | hidden promotional content for presenting to the user when the hot spot is activated; and                                                                          |
| 13(b)(2)        | coordinate information;                                                                                                                                            |
| 13(c)           | designating a non-promotional location in-game associated with activating the hot spot based on the coordinate information;                                        |
| 13(d)           | displaying an object at the designated non-promotional location; and                                                                                               |
| 13(e)           | displaying the hidden promotional content when the user activates the hot spot.                                                                                    |
| <b>Claim 14</b> |                                                                                                                                                                    |
| 14              | The method of claim 13, wherein the hidden content is promotional.                                                                                                 |
| <b>Claim 15</b> |                                                                                                                                                                    |
| 15              | The method of claim 13, wherein the coordinate information comprises time information for placing the hot spot in-game.                                            |
| <b>Claim 16</b> |                                                                                                                                                                    |
| 16              | The method of claim 13, wherein the hot spot information further comprises an object to be displayed in-game at the non-promotional location.                      |
| <b>Claim 17</b> |                                                                                                                                                                    |
| 17              | The method of claim 13, wherein the hot spot information specifies a type of manipulation required to activate the hot spot.                                       |
| <b>Claim 18</b> |                                                                                                                                                                    |
| 18              | The method of claim 13, wherein the hidden content comprises one or more objects selected from the group consisting of messages, graphics, animations, and sounds. |
| <b>Claim 19</b> |                                                                                                                                                                    |
| 19              | The method of claim 13, wherein the hidden content is displayed in a pop-up window.                                                                                |

| Claim 20 |                                                                                 |
|----------|---------------------------------------------------------------------------------|
| 20       | The method of claim 13, wherein the hidden content comprises a second hot spot. |

## **I. INTRODUCTION**

Petitioner PLR Worldwide Sales Ltd. requests that the Board institute IPR and cancel claims 1-20 of U.S. Patent No. 9,427,662 (the “‘662 Patent”).

The challenged claims are directed to dynamically updated “hotspots” used in video games on mobile devices. These hotspots are essentially in-game locations that, when activated by a player, cause additional hidden content (e.g., advertisements that may be updated from a server) to be displayed. However, the concept of in-game “hotspots” is a fundamental game design technique. The prior art references in this Petition disclose hotspots that render the challenged claims invalid. For instance, International Patent Publication Nos. WO 2008/008038 (“Ho”) and WO 2000/070489 (“Jiau”) disclose “hotspots” that can be engaged to display hidden content, such as advertisements. Two other references—U.S. Patent Publication No. 2002/0120589 (“Aoki”) and U.S. Patent No. 6,928,414 (“Kim”)—describe further implementation details for locating hotspots based on coordinate information. The challenged claims are unpatentable.

## **II. MANDATORY NOTICES**

### **A. Real Party-In-Interest**

The real parties-in-interest for Petitioner are PLR Worldwide Sales Limited and Playrix Holdings Ltd.

**B. Related Matters**

Pursuant to 37 C.F.R. §42.8(b)(2), Patent Owner has asserted the ‘662 Patent against Petitioner in *Flip Phone Games Inc. v. PLR Worldwide Sales Ltd.*, No. 2:23-cv-139 (E.D. Tex.).

Petitioner is not aware of any other related matters before the Patent Office with respect to the ‘662 Patent. However, contemporaneous with this Petition, Petitioner has filed IPR petitions against four other patents that Patent Owner has asserted in the aforementioned litigation: US8,688,089 (IPR2024-00133), US9,731,202 (IPR2024-00132), US10,617,958 (IPR2024-00171), and US11,117,056 (IPR2024-00200).

**C. Lead and Backup Counsel and Service Information**

Pursuant to 37 C.F.R. §42.8(b)(3) and (4), the designations of counsel and address for service are listed below. Petitioner consents to electronic service at the email addresses below.

| LEAD COUNSEL                                                                                                                                                                           | BACKUP COUNSEL                                                                                                                                                                                 |
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|---------------------|---------------------|

### **III. STANDING**

Petitioner certifies that the ‘662 Patent is available for IPR, and that Petitioner is not barred or estopped from requesting review. Patent Owner filed a complaint alleging infringement of the ‘662 Patent on March 31, 2023, and service was effectuated no sooner than April 4, 2023. Accordingly, this Petition is timely filed pursuant to 35 U.S.C. §315(b).

### **IV. PAYMENT OF FEES**

Petitioner authorizes the office to charge Deposit Account No. 505708 for the Petition fee set forth in 37 C.F.R. §42.15(a), and for any additional fees.

### **V. IDENTIFICATION OF CHALLENGE AND RELIEF REQUESTED**

Petitioner requests cancellation of claims 1-20 on the following grounds:

| <b>Ground</b> | <b>Reference(s)</b> | <b>Basis</b> | <b>Claims</b> |
|---------------|---------------------|--------------|---------------|
| 1             | Ho and Aoki         | §103         | 1-11, 13-19   |
| 2             | Jiau and Aoki       | §103         | 1-20          |
| 3             | Ho and Kim          | §103         | 1-11, 13-19   |
| 4             | Jiau and Kim        | §103         | 1-20          |

## **VI. TECHNOLOGY BACKGROUND**

### **A. Video Games**

Video games date back to at least 1961. Ex. 1003 ¶41; Ex. 1010, 34-35.

Video games rose in popularity in the 1970s and 1980s, particularly with the development and release of coin-operated arcade machines and home video game consoles. Ex. 1003 ¶42; Ex. 1010, 42, 124, 140-166, 295, 320. By the end of the 1980s, video games were already a multi-billion dollar business. Ex. 1003 ¶42; Ex. 1010, 429.

### **B. Mobile Games**

Portable video game systems began to launch at roughly the same time as home video game consoles. For example, in the late 1970s, Nintendo released its “Game & Watch” series of watch-shaped portable video games. Ex. 1003 ¶43; Ex. 1010, 296; Ex. 1011, 2. In 1989, Nintendo released the Game Boy. Ex. 1003 ¶43; Ex. 1010, 430; Ex. 1011, 2.

Video games began appearing on mobile phones in the late 1990s. Ex. 1003 ¶44; Ex. 1011, 2; Ex. 1012, 2. As mobile phones incorporated increasingly more powerful hardware, demand for mobile games increased and more developers emerged. Ex. 1003 ¶44; Ex. 1012, 2; Ex. 1013, 2. Following that trend, in 2002, Nokia released a portable gaming device built on a mobile phone, called the N-Gage. Ex. 1003 ¶44; Ex. 1013, 4. By the early 2000s, mobile games were

considered to be one of the fastest growing segments in the video game industry.

Ex. 1003 ¶¶45-47; Ex. 1014, 1; Ex. 1001, 1:15-18, 1:28-30.

Although mobile game development posed some unique challenges, hardware manufacturers and software developers quickly adapted to meet these challenges. Ex. 1003, ¶¶45-46.

### **C. Dynamic Content and In-Game Ads**

Game developers embraced the idea of updateable games even before mobile games became popular. Ex. 1003 ¶¶48-49. Many game publishers released expansion packs for popular games that added new levels, characters, or items to keep players interested. *Id.* For example, in 2001, Nokia launched a subscription service that allowed members to download new levels for certain mobile games. *Id.*; Ex. 1018, 52.

Dynamic content updates also allowed advertisers to expand into video games. Ex. 1003 ¶¶50-51. By 2006, several advertising companies had launched in-game advertising networks that allowed game developers to incorporate dynamic ads from third parties into their games, including mobile games. *Id.*; Ex. 1015, 1-2; Ex. 1016, 22-23; Ex. 1017, 1; *see also* Ex. 1008; Ex. 1009. These in-game ads also included interactive ads, which required a user to interact with an in-game object in order to trigger advertising content. Ex. 1016, 45. Advertisements could also be

targeted based on criteria such as game type, geographic information, player demographics, etc. Ex. 1008, [0054]-[0055].

#### **D. Easter Eggs and Secret Content**

Easter eggs and other secret content have existed since some of the earliest video games. Ex. 1003, ¶¶53-56. For example, the 1979 Atari game *Adventure* included a hidden easter egg room where the developer hid his name. Ex. 1010, 205. Later games took *Adventure*'s easter egg idea to the next level, hiding many secret locations and items within a single game. For example, Nintendo's *Super Mario Bros.* (1985) included secret locations that transported players to new levels with hidden worlds, and hid items such as coins and extra lives in invisible blocks that appeared to just be part of the game background. Ex. 1010, 317.

#### **E. Coordinate Information**

Coordinates systems were fundamental to managing and representing positions of objects, characters and elements within the game world. Ex. 1003, ¶¶57-59. 2-D games typically used cartesian coordinate system (x,y) to define positions on a two-dimensional plane. Ex. 1021, 1; *see also* Ex. 1023, 176. Similarly, 3D-games also used coordinates (e.g. x,y,z) to define positions in a 3D-space. Ex. 1021, 1. Indeed, even beyond the references in the grounds below, many prior art references described “two or three-dimensional coordinate system” for

defining areas and locating elements in-game. *See, e.g.*, Ex. 1022, [0069]; Ex. 1023, 243, 249, 498-514.

## **VII. THE ‘662 PATENT**

### **A. Priority**

The ‘662 Patent is titled *Methods and Systems for Providing In-Game Hot Spots*. Ex. 1001. The underlying application was filed on February 14, 2014, as a continuation of U.S. Application No. 11/768,890, filed on June 26, 2007. *Id.* For purposes of this Petition, Petitioner uses a June 26, 2007 priority date.

### **B. Specification**

The ‘662 Patent is directed to systems and methods that provide hot spots in a mobile game. Ex. 1001, 1:11-13; Ex. 1003 ¶¶62-65. The specification acknowledges that as of the priority date, “an extremely large number of people worldwide own[ed] mobile communication devices,” and that those devices had experienced a “recent surge in technical capabilities.” *Id.*, 1:45-48. In addition, “[m]ost current mobile communication devices come equipped with one or more games” and “allow users to download and/or purchase new games.” *Id.*, 1:18-21. Thus, “gaming on mobile communication devices” was already “a popular mode of entertainment.” *Id.*, 1:28-30. Accordingly, the ‘662 Patent does not claim to have invented mobile devices or mobile games. Instead, the ‘662 Patent focuses on two concepts relating to the design of a mobile game: (1) how to “hold the user’s interest

for a longer period of time,” and (2) how to “provid[e] in-game advertising space in the palm of the user’s hand.” *Id.*, 1:43-44, 1:53-54.

Specifically, the ‘662 Patent describes using “hot spots of triggered content within the gaming environment of a mobile video game.” *Id.*, 1:65-66. “A hot spot is an in-game feature that includes an activation element and a content element that is triggered by the activation element.” *Id.*, 2:25-26. “The activation element may comprise an area location or an item, sometimes hidden in the game, that can be triggered by a user or some other in-game element.” *Id.*, 2:31-33. The content element is “displayed when the hot spot is activated” and “may include ... a message, and the message may be promotional.” *Id.*, 2:39-41.

For example, the updates containing new hot spot information for a mobile game are distributed by a server. *Id.*, 3:10-22. A mobile device running the mobile game contacts the server over an available network (e.g., the Internet) and requests updated hot spot information. *Id.*, 9:27-32. In response, the server determines which hot spot information (if any) should be sent to the mobile device, based on readily available information, such as the model type of the requesting device, the location of the mobile device, the telecommunications service plan or service provider of the mobile device, or other user information supplied to the server. *Id.*, 13:37-46. Once the appropriate hot spot information has been determined, the server uploads the hot spot information to the mobile device. *Id.*, 14:8-9. The mobile device then

incorporates the new hot spot information into the mobile game, for example, by designating an in-game location that activates the hot spot, and displaying the hot spot content when the hot spot is activated. *Id.*, 11:52-12:42.

**C. Prosecution History**

The application underlying the '662 Patent was filed on February 14, 2014. Ex. 1002.

On July 17, 2017, the Examiner issued an Office Action rejecting all claims as obvious over Lauper in view of Chu. *Id.* at 86. Specifically, the Examiner concluded that “Lauper discloses the [subject matter of the '662 Patent] substantially” but relied upon Chu to disclose “placing content in non-promotional locations that lack a nexus to advertisement data.” *Id.*

On November 17, 2015, the Applicant amended the independent claims to recite that the hot spot information comprises “coordinate information” and that the activation of the hot spot is “based on the coordinate information.” *Id.* at 65.

The Examiner nonetheless rejected the newly amended claims on the basis that Chu disclosed such “coordinate information.” *Id.* at 47. The Examiner noted that “Chu additionally teaches that locations both for advertisements and non-promotional content are associated with game coordinates.” *Id.* at 48. Chu introduced a term, “defining,” which Chu explained “refers to a unique method of specifying the areas or objects within a game in which advertisements may display.”

*Id.* Additionally, “‘areas’ in this context refers to any region mapped to any two or three-dimensional coordinate system bounded by the spatial dimensions of the described space.” *Id.* Accordingly, the Examiner concluded that Chu disclosed the newly amended claims. *Id.*

After filing a Request for Continued Examination, the Applicant Amended the claims to recite “displaying an object at the designated non-promotional location.” *Id.* at 26. Applicant alleged that this limitation rendered the claims non-obvious over Lauper in view of Chu, as “Chu fails to disclose that any object displayed at a designated location which, when activated, results in the display of the advertising information.” *Id.* at 30.

After this amendment, the Examiner provided a Notice of Allowance. *Id.* at 13. Thus, the prosecution history reveals that the point of novelty was “displaying an object at the designated non-promotional location.” *Id.*, 23. The prior art in this petition discloses this alleged point of novelty and renders the challenged claims unpatentable. *See* §§X-XIV.

### **VIII. LEVEL OF ORDINARY SKILL IN THE ART**

A POSITA as of June 26, 2007 would have had an undergraduate degree in game design, computer science, computer engineering, or a related field, with 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. Ex. 1003 ¶¶73-78.

## **IX. CLAIM CONSTRUCTION**

Petitioner does not believe any terms require construction to resolve the patentability disputes because the challenged claims are rendered unpatentable by the cited art under any reasonable interpretation of the claims. Petitioner takes no position in this Petition as to whether the claims are indefinite, and no statements herein should be interpreted to mean that the terms are definite.

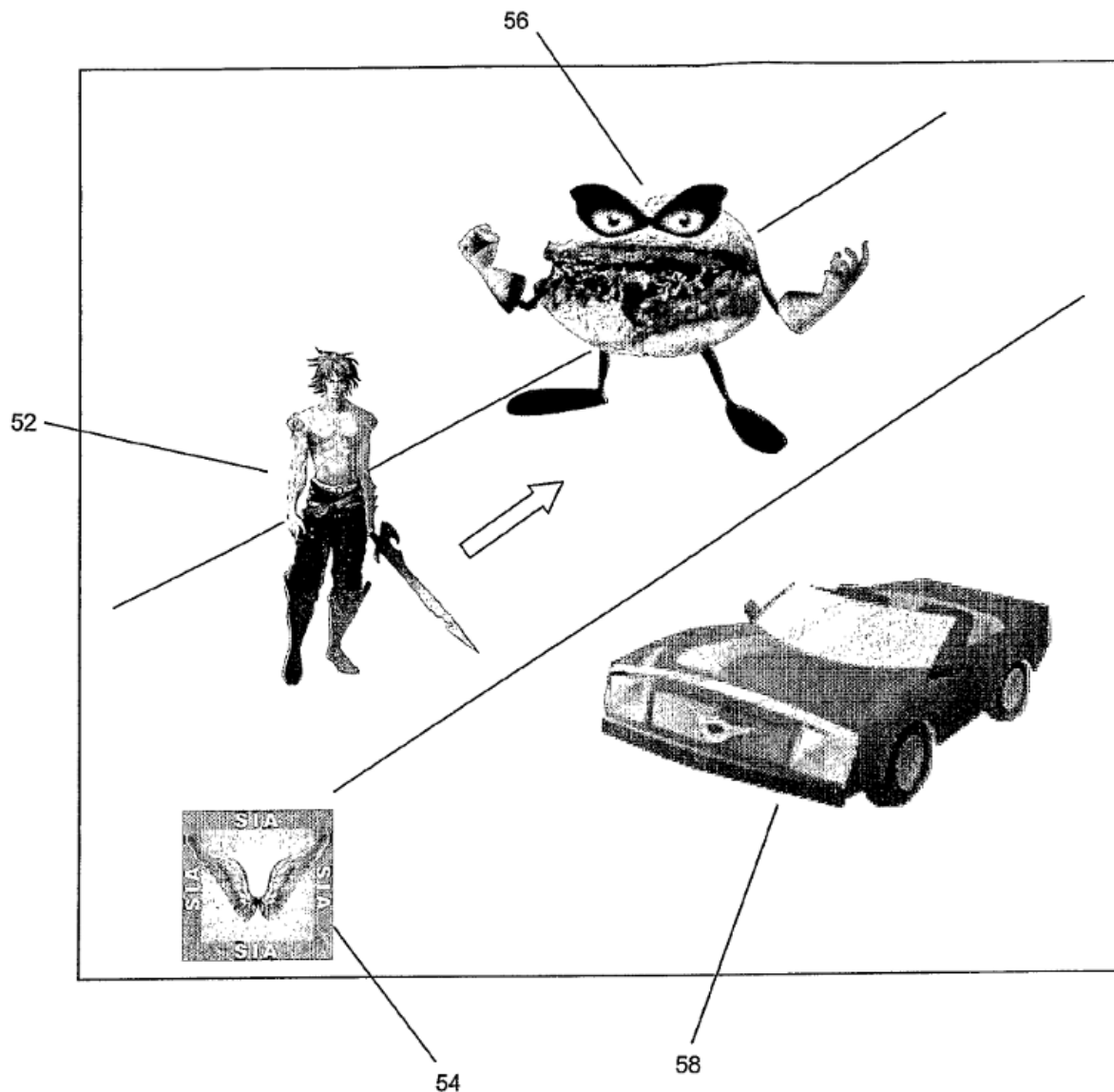
## **X. GROUND 1: HO AND AOKI RENDER CLAIMS 1-11, 13-19 OBVIOUS**

### **A. Ho (Ex. 1004)**

Ho was filed as a PCT application designating the United States on July 12, 2006 and published January 17, 2008. *Id.* It qualifies as prior art under at least pre-AIA 35 U.S.C. §102(e)(1).

Ho discloses “a video game with at least one interactive information element incorporated within the game.” Ex. 1004, 2:1-2; Ex. 1003 ¶¶83-86. The video game and interactive information element may be used on various types of gaming devices, including, *inter alia*, “a mobile telephone.” *Id.*, 2:20-22. The interactive information element may be an icon, character, or item in the game, or similar in-game objects. *Id.*, 2:11-12. For example, in one embodiment, illustrated in Figure 3 (reproduced below), the interactive information elements may be “a ‘wings’ button

54 to enable the character 52 to fly (an example of an icon in the game), a hamburger monster 56 (an example of a character in the game) and a car 58 (an example of an item in the game).”



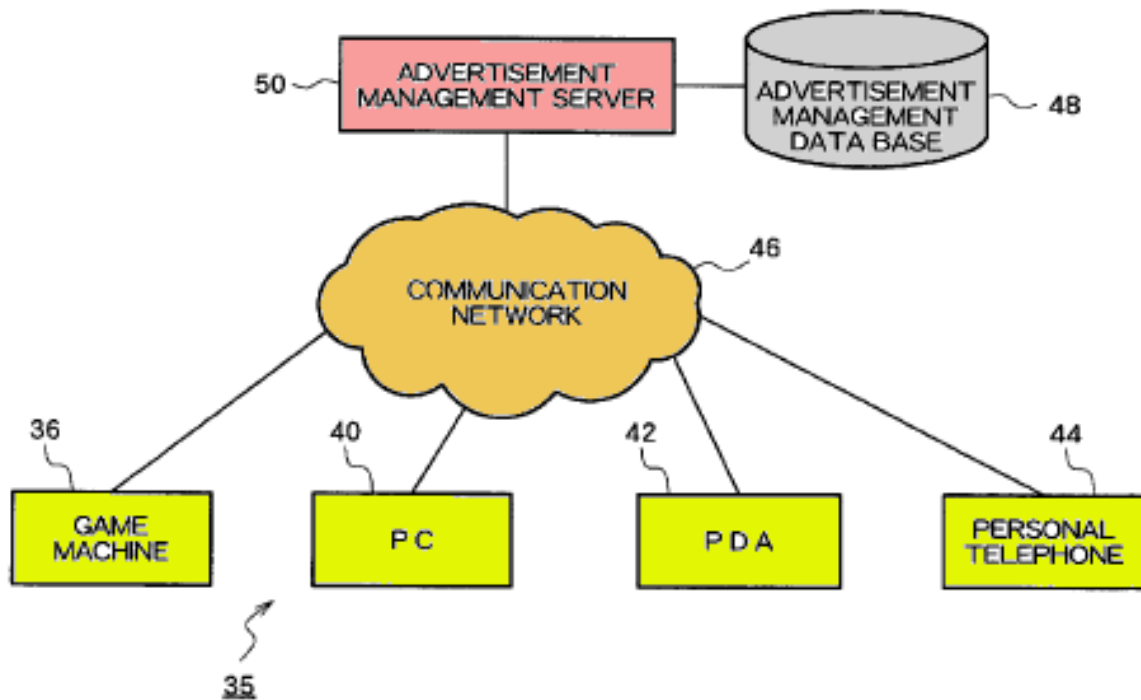
*Id.*, Fig. 3, 5:1-5. When a player engages with the interactive information element, it may “activate[] an action such as, for example, an on-screen presentation.” *Id.*, 2:22-25.

Ho further teaches that the interactive information element “is able to be updated.” *Id.* 2:17-18. For example, the interactive information element may be provided by a “module” that may be “added to the video game” after it is published. *Id.*, 9:27-31. “The module may allow the ... interactive information element to be updated by automatically download and replacing relevant sub-modules of the interactive information elements in the video game.” *Id.*, 9:31-33. The update process may be performed between a “client end device, such as, for example ... a mobile telephone,” and server. *Id.*, 10:2-6. The server receives information from the client, “determines whether the interactive information element(s) needs to be changed/renewed,” and sends new interactive information elements to the client. *Id.*, 10:6-8, 10:14-19.

**B. Aoki (Ex. 1005)**

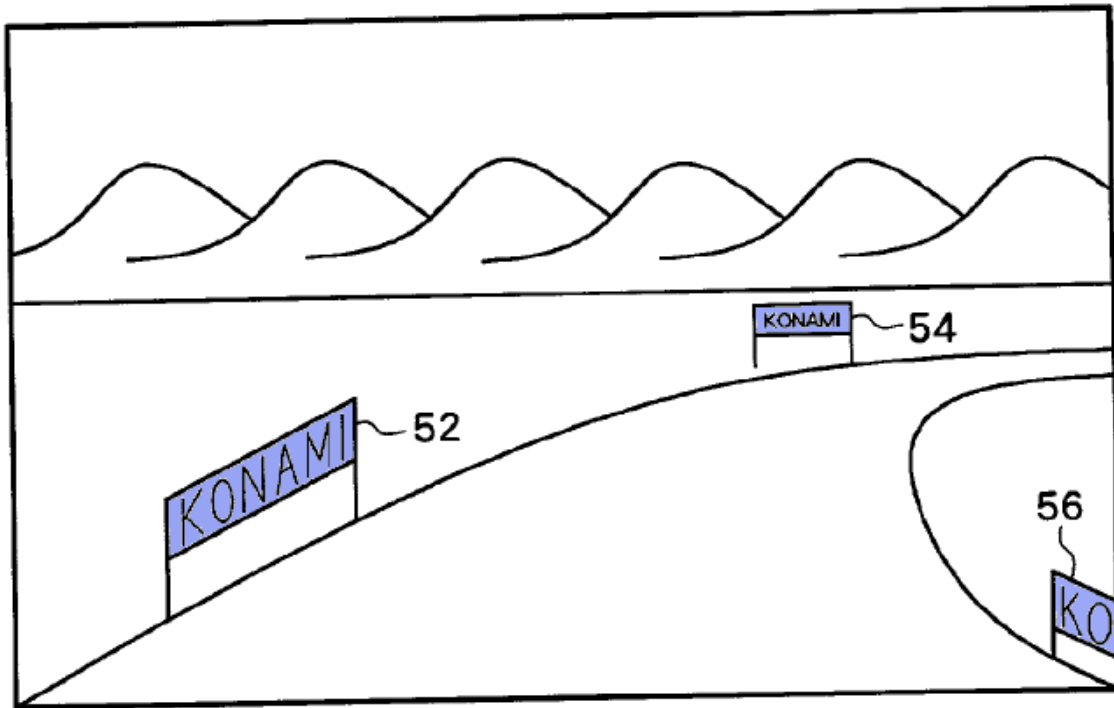
Aoki was filed on February 27, 2002 and was published on August 29, 2002. *Id.* It qualifies as prior art under at least pre-AIA 35 U.S.C. §102(b).

Aoki relates to a “game advertisement charge system” that includes game terminals (yellow) connected over the communication network (orange) to an advertisement management server (red) that comprises an advertisement management database (grey):



Ex. 1005, Fig. 1, [0060]-[0062]. “A game advertisement may be supplied from various advertisers in the form of a still picture, a motion picture, audio, character data (text data)” and “sent to a game terminal” via the communication network. *Id.*, [0067].

For instance, Figure 3 illustrates an example of a game image for a 3D driving game that includes “placard objects 52, 54, 56” (blue) installed on the “road”:

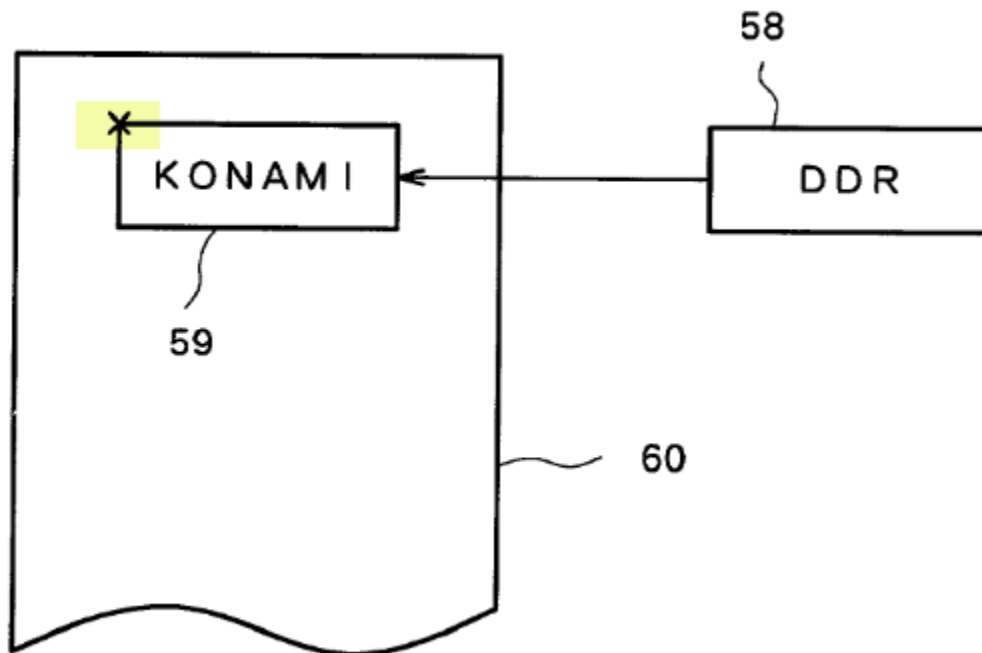


*Id.*, Fig. 3, [0068]. Each of the placard objects has “an advertisement image attached thereon,” which may be a texture image. *Id.* In the case of Figure 3, a “Konami” advertising image is shown. *Id.* Aoki teaches advertisements may be associated with other objects too, “such as a building, a game character object, and a moving object.” *Id.*

Figure 5 discloses the contents of the “advertisement management database 48” that comprises “advertisement placement location data”:

| ADVERTISEMENT ID | IMAGE PATH  | GAME ID | ADVERTISEMENT PLACEMENT LOCATION DATA<br>(ADVERTISEMENT TEXTURE DATA, REPLACING POSITION) | ADVERTISEMENT PERIOD |
|------------------|-------------|---------|-------------------------------------------------------------------------------------------|----------------------|
| 0 0 1            | xxx/xxx.bmp | 0 1 2 3 | • • • • •                                                                                 | 2001/1/1~2001/2/28   |
| 0 0 2            | xxx/xyy.bmp | 0 1 2 3 | • • • • •                                                                                 | 2001/1/1~2001/9/1    |

*Id.*, Fig. 5, [0072]. “As shown, ‘advertisement placement location data’ includes ‘texture image ID’ and ‘replacing position.’” *Id.* “‘Texture image ID’ is information identifying a texture image used in the relevant game, and ‘replacing position’ is information, expressed in X and Y coordinates, specifying a position in each texture image, where an advertisement image is to be embedded.” *Id.* When the time arrives to display an advertisement image, the advertisement placement location data is used to embed the advertisement image “into the point designated by the ‘replacing position,’” for example the point “marked X in the image in Fig. 7” below:



*Id.*, Fig. 7, [0074]. Thus, Aoki uses the received X and Y coordinate information that is part of the advertisement placement location data to display an advertisement at the appropriate location in-game. *Id.*; Ex. 1003 ¶¶87-90.

### **C. The Ho-Aoki Combination**

In the proposed Ho-Aoki combination, Ho's teachings provide the basic features of a mobile video game with dynamically updated elements, including interactive elements (*i.e.*, hot spots) that are stored on and retrieved from a server, and that trigger hidden in-game content when activated by a player. Ex. 1003 ¶101. To the extent not already disclosed by Ho, Aoki's teachings supply additional details regarding locating interactive elements based on coordinate information provided by a server. *Id.*

#### **1. Motivation to Combine**

A POSITA would have been motivated to apply Aoki's teachings to Ho's video game, and would have had a reasonable expectation of success in combining the references. Ex. 1003, ¶103.

**First**, Ho provides express teachings that would motivate a POSITA to combine the references. Ex. 1003 ¶104. Ho states that a "major disadvantage" in existing video games is the inability "to incorporate interactive and update-able advertisements into existing video games without a major revision of the source code." *Id.*, 1:35-37. Thus, Ho describes a video game that can receive from a server

“new” or “changed” interactive information elements which are engageable to display advertisements. Ex. 1004, 10:14-19. A POSITA would have understood that these new or changed elements must be positioned at the appropriate location in-game and that 2D and 3D games use coordinate information to position gaming elements. Ex. 1003, ¶104; see §VI.E. Although Ho in view of the general knowledge of a POSITA renders obvious providing coordinate information for placing new or changed interactive information elements in-game, Ho provides only high-level implementation details. Ex. 1004, 9:33-36 (server may provide the client with a “module” that “enable[s] the at least one interactive information element” and that “may also enable the **location** of the least one interactive information element at a juncture in the video game.”), 7:17-23 (interactive information elements may be “located at a juncture in the game”). Thus, a POSITA would have also been motivated to look to other reference, such as Aoki, for implementation details regarding how to locate these elements. Ex. 1003 ¶104. Aoki confirms that a server may provide “placement location data” that includes “X and Y coordinates” for positioning elements received from the server (*e.g.*, advertisements). *Id.*, [0072], [0074], Fig. 7.

**Second**, Aoki’s disclosure of positioning items in game based on coordinate information reflects the application of a known technique. Ex. 1003 ¶105. By the time of the ’662 patent many video games used coordinates extensively to manage

and represent the position of objects, characters and elements within the game world, such as the interactive information elements and hidden content in Ho. *See* §VI.E. A POSITA would have thus understood that coordinate information was the simplest and most well-known manner of positioning Ho's in-game elements. Ex. 1003 ¶105. Moreover, a POSITA would have understood that receiving coordinate information for placing new or changed elements from a server would improve a video game by allowing those elements (and their associated advertisements) to be dynamically positioned on screen using the received X and Y coordinates. *Id.*

**Third**, Ho and Aoki are all directed to the same types of improvements in game design and monetization that the '662 Patent purports to provide. *Id.*, ¶106. For example, the '662 Patent purports to identify two ways in which hot spots may be used to improve video games: (1) reducing the loss of interest as a player becomes familiar with the game elements, and (2) providing opportunities for advertising. Ex. 1001, 1:30-35, 1:53-55, 1:67-2:6. Ho and Aoki identify similar improvements for video games. Ex. 1003 ¶106. A POSITA would have thus looked to Ho and Aoki when considering how to implement known video games that provide advertising content. *Id.*

**Finally**, Ho, Aoki, and the '662 patent are all analogous art because the '662 Patent and the prior art references are all in the same field of endeavor, *i.e.*, video games and, in particular, in-game advertising. *Id.*, ¶107.

**2. Claim 1**

- a) *Limitation 1(pre): “A method for retrieving and displaying a hot spot associated with a video game operable on a mobile communication device, comprising:”*

To the extent the preamble is limiting, Ho discloses limitation 1(pre). Ex. 1003 ¶¶108-109. Ho teaches how to incorporate an “interactive information element into a video game.” Ex. 1004, Abstract. Ho’s interactive information elements are examples of “hot spots” as described by the ‘662 Patent, because they correspond to designated in-game locations that cause actions to occur, such as displaying an advertisement, when the user engages the element. *Id.*, 5:9-38; *see also* Ex. 1001, 2:25-30 (“A hot spot is an in-game feature that includes an activation element and a content element that is triggered by the activation element.”). Ho further teaches that “[t]he video game may be run on a device such as ... a mobile telephone” or “personal digital assistant.” *Id.*, 2:20-22.

- b) *Limitation 1(a): “contacting a server for hot spot information to download, comprising providing the server with at least one of: a game for which hot spot information is desired, a scene for which hot spot information is desired, an element for which hot spot information is desired, the model type of the mobile communication device, the service plan to which the mobile device belongs, the service provider for the mobile communications device, the base location of the mobile communication device, the current location of the mobile communication device, a version identifier for hot spot information currently on the mobile communication device, user-identification information, preset location, amount of game-play time, game score, and level of play;*

Ho discloses and renders obvious limitation 1(a). Ex. 1003 ¶¶110-117.

**“contacting a server for hot spot information to download”**: Ho teaches that a “client end device” such as a “mobile telephone” may “connect[] to a server,” which in turn downloads “new interactive information element(s)” (i.e., **hot spots**) to the client end device. Ex. 1004, 10:3-6, 10:14-17; *see also id.*, 6:28-31 (“For video games that are played in an online mode, the interactive information elements may be updated by automatically downloading and replacing relevant sub-modules controlling the interactive information elements in the video game.”), Figs. 4-5.

**“comprising providing the server with at least one of...”**: Ho teaches that the server “obtain[s] data from the client end device,” such as a mobile telephone. Ex. 1004, 10:6-8. A POSITA would understand that the data provided by the mobile

phone may comprise one or more items recited in limitation 1[a]. Ex. 1003 ¶¶112-117.

For instance, Ho discloses that the interactive information elements may be used to display public announcements services, such as “warnings of hurricanes, tsunamis, earthquakes,” etc. Ex. 1004, 9:7-15 A POSITA would understand this disclosure to teach that the mobile phone provides the server with “the current location of the mobile communication device.” Ex. 1003 ¶113. Such information would be needed so that a warning regarding a hurricane in Florida is directed to residents in Florida. *Id.*

As another example, Ho discloses that engaging a hot spot (e.g., slay[ing] the hamburger monster 56”) reveals hidden content received from the server, such as an advertisement for a “chain of fast food restaurants.” Ex. 1004, Abstract, 2:6-9, 5:35-39, 8:19-21. A POSITA would understand this disclosure to teach that the mobile phone provides to the server the “scene” and/or “element” (*i.e.*, the hamburger monster) for which hot spot information is desired so that the server may return the appropriate advertisement (*i.e.*, an advertisement for a fast food chain). Ex. 1003 ¶114. A POSITA would also understand this disclosure to teach that the client device provides the server with the “current location of the mobile communication device” so that the fast food chain that is advertised is one which is within the geographic location of the client device. *Id.*

As yet another example, a POSITA would have understood Ho to disclose or render obvious providing the server with “the model type of the mobile communication device.” Ex. 1003 ¶115. For instance, Ho teaches that its game may run on a “mobile telephone” (Ex. 1004, 2:20-22) and a POSITA would have understood that mobile phones had different capabilities (*e.g.*, different screen sizes, resolutions, and operating systems). Ex. 1003 ¶115. Thus, a POSITA would have understood or found it obvious to provide the server with the model type of the mobile phone so that hot spot and advertisement information that is returned by the server is compatible or optimized for the mobile phone type. *Id*

As a further example, Ho discloses that its video game may be subject to ongoing development, with updated modules and interactive information elements (*i.e.*, new versions) being published over time. Ex. 1004, 9:25-27. Ho further teaches that the server must “determine[] whether the interactive information element(s) needs to be changed/renewed (108)” when a mobile phone contacts the servers. Ex. 1004, 10:14-19. A POSITA would have understood this disclosure to teach and render obvious providing the server with “a version identifier” for the interactive information element so that the mobile phone can keep track of whether the version on the mobile phone is the latest version. Ex. 1003 ¶116; *see also* Ex. 1020 (U.S. Pub. No. 2003/0100355), [0019] (“When new levels and/or versions are applied to the game the content provider modifies the games content. Modified

games content has an associated identifier tag that identifies the version that has been used in its construction.”).

To the extent Ho does not disclose or render obvious this limitation, the combined teachings of Ho and Aoki render the limitation obvious. Ex. 1003 ¶117. Aoki discloses that a game terminal (e.g., a “telephone”) that is operable to run a video game sends an advertisement management server “the ID of the player who uses the game terminal” and a “game ID identifying a game” in order to obtain advertisements. Ex. 1005, [0077]. Thus, in the combined Ho-Aoki system the client end device would continue to download from the server interactive information elements and hidden content, and would do so after providing the server the ID of the player (“user-identification information”) and a game ID (“a game for which hot spot information is desired”). Ex. 1003 ¶117. The prior art includes express teachings that would motivate a POSITA to provide the server a user ID and game. *Id.* For instance, a POSITA would have understood and the prior art explains that identification of the user and game would allow the server to provide Ho’s mobile device with advertisements that are targeted to specific users and games. *Id.*; *see also* Ex. 1008, [0054]-[0055] (describing various characteristics that may be used for targeting advertisements, including user information and game type).

- c) *Limitation 1(b): “downloading hot spot information from the server to the mobile communication device, the hot spot information comprising: (1) hidden content for presenting to the user when the hot spot is activated; and (2) coordinate information”*

Ho discloses and renders obvious limitation 1(b). Ex. 1003 ¶¶118-123.

***“downloading hot spot information from the server to the mobile communication device”***: Ho teaches that responsive to the communication from the mobile device, the server “check[s] information on the client end device relating to the interactive information element(s)” and then “determines whether the interactive information element(s) needs to be changed/renewed.” Ex. 1004, 10:10-15. “If the interactive information element(s) needs to be changed/renewed, then new interactive information element(s) are sent to the client end device.” *Id.*, 10:15-19.

***“the hot spot information comprising: (1) hidden content for presenting to the user when the hot spot is activated”***: Ho further teaches that interactive information elements (*i.e.*, hot spots) comprise hidden content for presenting to the user when the hot spot is activated. Ex. 1003 ¶120. For instance, Ho teaches that its interactive information elements may be represented by non-promotional objects, such as in-game characters or items. Ex. 1004, 2:11-12 (“interactive information element may be, for example, an icon in the game, a character in the game or an item in the game.”), 5:1-7 (examples using a “hamburger monster” and a “car”), 5:27-38, Fig. 3. Ho further explains that activating these interactive elements reveals hidden

content for presenting to the user, such as advertisements. *Id.*, 5:27-38 (describing how an “on-screen presentation” such as an advertisement is displayed only “[i]f the player chooses to engage any of the interactive information elements”), 8:11-21.

**“and (2) coordinate information”:** Ho discloses interactive information elements (*i.e.*, hot spots), such as a “wings button 54” (icon), a “hamburger monster 56” (character in a game), or “a car 58” (item), that when engaged display hidden content (*e.g.*, advertisements). *Id.*, 5:2-16, 5:27-38. Ho further teaches that the interactive information elements and hidden content that is displayed when an interactive information element is activated may be provided by the server and “located at a juncture in the game such as... a specific location in the game.” Ex. 1004, 7:17-23; *see also id.*, 9:33-36 (server may provide the client with a “module” that “enable[s] the at least one interactive information element” and that “may also enable the location of the least one interactive information element at a juncture in the video game.”). A POSITA would have understood Ho’s disclosures to teach that the server provides coordinate information for the interactive information elements. Ex. 1003 ¶121. Indeed, a POSITA would understand that by the time of Ho many video games used coordinates extensively to manage and represent the position of objects, characters and elements within the game world. *Id.*; *see also* §VI.E. For instance, in games with 2D graphics, coordinates may use a system like (x,y) to define positions on a two-dimensional plane. Ex. 1003 ¶121. Similarly, 3D games

also use coordinates to define positions on a three-dimensional plane. *Id.* Thus, a POSITA would have understood that Ho's server would provide coordinate information so that the interactive information element and hidden content can be displayed in the appropriate location on the screen. *Id.*

To the extent Ho does not disclose or render obvious this limitation, the limitation was obvious in view of Aoki. Ex. 1003 ¶122. Aoki discloses that a server may provide a mobile communication device (e.g., a "PDA" or "telephone") with advertisements to be displayed in a video game. Ex. 1005, [0061]-[0062], Fig. 1. For instance, the server may provide an "advertisement image" along with "advertisement placement location data." *Id.* The advertisement placement location data includes a "replacing position" that specifies the in-game location for the advertisement using "X and Y coordinates." *Id.* Thus, when the time arrives to display an advertisement image, the game can place the advertisement image "into the point designated by the 'replacing position'" using the X and Y coordinates. *Id.*, [0072], [0074], Fig. 7. In the combined Ho-Aoki system, the client end device would continue to download from the server interactive information elements and hidden content, and would also receive location data specifying, using coordinate information, an in-game location where the interactive information elements and advertisements should be displayed. Ex. 1003 ¶¶122-123.

- d) *Limitation 1(c): “designating a non-promotional location in-game associated with activating the hot spot based on the coordinate information”*

Ho discloses and renders obvious limitation 1(c). Ex. 1003 ¶¶124-128.

***“designating a non-promotional location in-game associated with activating the hot spot”***: Ho discloses that the interactive information elements (*i.e.*, hot spots) that are activated to display hidden content are “located at a juncture in the game such as... a specific location in the game.” Ex. 1004, 7:17-23; *see also id.*, 9:33-36 (server may provide the client with a “module” that “enable[s] the at least one interactive information element” and that “may also enable the location of the least one interactive information element at a juncture in the video game.”). Ho’s interactive information elements are represented by non-promotional objects because they correspond to in-game characters or items, and do not display promotional content until a user has performed a predetermined action. Ex. 1004, 2:11-12, 5:1-7, 5:27-38 (describing how an “on-screen presentation” such as an advertisement is displayed only “[i]f the player chooses to engage any of the interactive information elements”). Thus, the designated location of the interactive information element is a “non-promotion location in-game associated with activating the hot spot.” Ex. 1003 ¶125.

***“based on the coordinate information”***: Ho also discloses that the location of the interactive information elements and hidden content is based on coordinate

information provided by the server. Ex. 1003 ¶126. For example, Ho teaches that a server provides the interactive information elements and hidden content, along with the location in-game where they should be displayed. Ex. 1004, 7:17-23; *see also id.*, 9:33-36 (server may provide the client with a “module” that “enable[s] the at least one interactive information element” and that “may also enable the location of the least one interactive information element at a juncture in the video game.”). By the time of Ho, video games used coordinates extensively to manage and represent the position of objects, characters and elements within the game world. *Id.*; *see* §VI.E. A POSITA would thus have understood Ho’s disclosures to teach coordinate information is provided by the server to locate the interactive information elements and hidden content at the appropriate locations in-game. Ex. 1003 ¶126.

To the extent Ho does not disclose or render obvious this limitation, the limitation was obvious in view of Aoki. Ex. 1003 ¶127. As explained in connection with limitation 1(b), Aoki discloses that a server may provide an “advertisement image” along with “advertisement placement location data” that specifies the in-game location for the advertisement using “X and Y coordinates.” Applying Aoki’s teaching to Ho, a POSITA would have found it obvious for the server to provide coordinate information that specifies the location where interactive information elements and advertisements should be displayed. Ex. 1003 ¶¶127-128.

e) *Limitation 1(d): “displaying an object at the designated non-promotional location”*

Ho discloses limitation 1(d). Ex. 1003 ¶¶129-130. Ho’s interactive information elements are represented by objects, such as in-game characters or items. Ex. 1004, 2:11-12, 5:1-7. As described above in §V.C.2.e, these objects are displayed at the designated non-promotional location.

f) *Limitation 1(e): “displaying the hidden content when the user activates the hot spot.”*

Ho discloses limitation 1(e). Ex. 1003 ¶¶131-132. Ho teaches that when a user activates an interactive information element (*i.e.*, hot spot) hidden promotional content is displayed on the screen. Ex. 1004, 5:27-38 (describing how an “on-screen presentation” such as an advertisement is displayed only “[i]f the player chooses to engage any of the interactive information elements”).

**3. Claim 2: “The method of claim 1, wherein the hidden content is promotional.”**

Ho discloses the additional limitation of claim 2. Ex. 1003 ¶¶133-34. For example, Ho explains that the hidden content may be a promotional advertisement. Ex. 1004, 5:27-38, 8:11-21.

**4. Claim 3: “The method of claim 1, wherein the coordinate information comprises time information for placing the hot spot in-game.”**

As discussed in §X.C.2.c, Ho alone or in view of Aoki renders obvious coordinate information for placing the hot spot in-game.

Ho further discloses that the coordinate information may comprise time information. Ex. 1003 ¶136. For instance, Ho explains that the server may provide the client with a “module” that “enable[s] the location of the least one interactive information element at a juncture in the video game,” wherein the juncture may be “a point along a timeline of the game.” Ex. 1004, 9:33-36, 7:17-23.

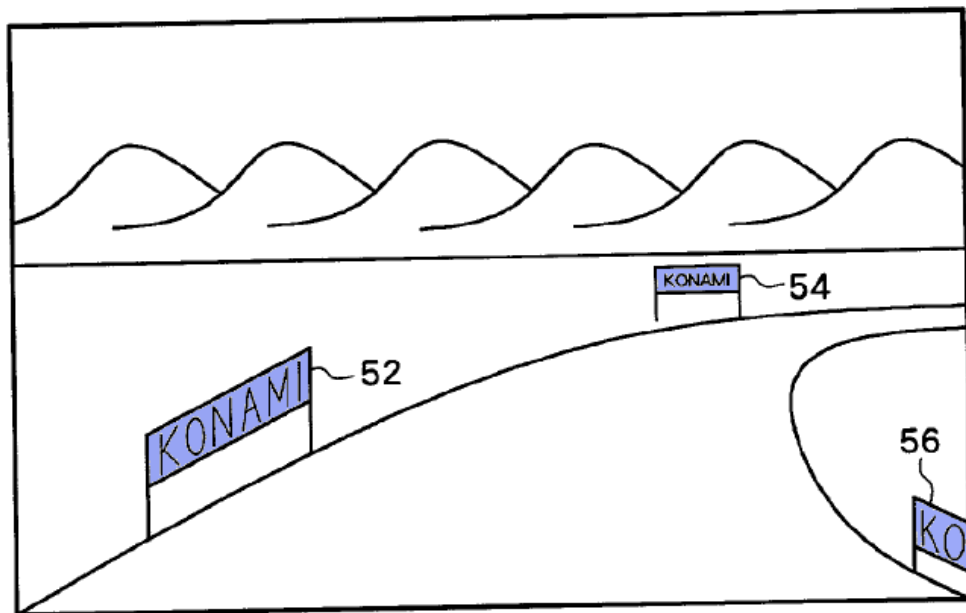
Aoki also discloses that the coordinate information may comprise time information for placing the hot spot in-game. Ex. 1003 ¶137. For instance, Aoki teaches that the server provides “advertisement period” information that is associated with the “advertisement placement location data.” Ex. 1005, [0072], Fig. 5. The advertisement period “indicates a period during which the relevant advertisement is being displayed,” for instance Aoki provides an example in which a first advertisement has an “advertisement period” of January 1, 2001 to February 28, 2001. *Id.* Aoki teaches that the client device consults the advertisement period to determine whether or not an advertisement image should be placed in game or deleted. *Id.*, [0073]. A POSITA would have understood that using such time information was desirable so that ads are not displayed past their expiration.

**5. Claim 4: “The method of claim 1, wherein the coordinate information comprises one or more predefined in-game locations.”**

Ho discloses and renders obvious the additional limitation of claim 4. Ex. 1003 ¶¶138-140. For instance, Ho discloses that the interactive information

elements and hidden content that is displayed when an interactive information element is activated may be provided by the server and “located at a juncture in the game, wherein the juncture is either a specific event in the course of the game or a specific location in the game.” Ex. 1004, 7:17-23; *see also id.*, 9:33-36. For instance, the predefined in game location may be a “supplementary box” displayed “during character selection” or an icon displayed on the log-in page. *Id.*, 4:29-31, Fig. 6-8.

Aoki also discloses coordinate information may comprise a location on “placard objects 52, 54, 56” that “are installed along the road built in the game space”:



*Id.*, [0068], Figs. 3, 7. The placard objects are a predefined in-game locations. Ex. 1003 ¶140.

**6. Claim 5: “The method of claim 1, wherein the hot spot information further comprises an object to be displayed in-game at the non-promotional location.”**

Ho discloses the additional limitation of claim 5. Ex. 1003 ¶¶141-142. For example, Ho explains that the interactive information elements may be represented by non-promotional objects, such as in-game characters or items. Ex. 1004, 2:11-12, 5:1-7, 5:27-38, Fig. 3.

**7. Claim 6: “The method of claim 1, wherein the hot spot information specifies a type of manipulation required to activate the hot spot.”**

Ho discloses the additional limitation of claim 6. Ex. 1003 ¶¶144-145. For example, Ho discloses that an interactive information element may be activated using various manipulations, for example “clicking,” “highlighting” or “interacting with the interactive information element.” Ex. 1004, 2:11-19, 7:17-8:9, Claim 4.

**8. Claim 7: “The method of claim 1, further comprising saving on the mobile communication device a version identifier for the downloaded hot spot information.”**

Ho discloses and renders obvious the additional limitation of claim 7. See §X.C.2.b; Ex. 1003 ¶¶146-147.

**9. Claim 8: “The method of claim 1, wherein the hidden content comprises one or more objects selected from the group consisting of messages, graphics, animations, and sounds.”**

Ho discloses the additional limitation of Claim 8. Ex. 1003 ¶¶147-148. For example, Ho teaches that when a user activates an interactive information element

(i.e., hot spot) the hidden promotional content displayed on the screen may comprise messages, graphics, animations and sounds. Ex. 1004, 8:12-20.

**10. Claim 9: “The method of claim 8, wherein the hidden content is promotional.”**

Ho discloses the additional limitation of Claim 9. Ex. 1003 ¶¶149-150; see also §X.C.3.

**11. Claim 10: “The method of claim 1, wherein the hidden content is displayed in a pop-up window.”**

Ho discloses and renders obvious the additional limitation of Claim 10. Ex. 1003 ¶¶151-152. For instance, Ho discloses that the hidden content may be displayed in a “sub-screen.” Ex. 1004, 9:19-21, Claim 9. A POSITA would have understood the sub-screen to teach displaying the advertisement in a “pop-up window.” Ex. 1004, 8:12-20. It was also obvious to implement the “sub-screen” as a pop-up window. Ex. 1003 ¶152. By the time of the ’662 patent, pop-up advertisements were often associated with free-to-play games to permit the developer to generate revenue through advertisements. *Id.* POSITAs understood that displaying advertisements within a pop-up window could grab the user’s attention effectively because the pop-up window appears prominently on the screen. *Id.*

**12. Claim 11: “The method of claim 1, wherein the hidden content is displayed on the mobile communication device in a website separate from the video game.”**

Ho discloses and renders this limitation obvious. Ex. 1003 ¶¶153-154. For instance, Ho discloses that the hidden content may be displayed in a “sub-screen.” Ex. 1004, 9:19-21. Ho also discloses that the subscreen may be “overlaid on the game.” *Id.*, 5:38-39. A POSITA would have understood that a sub-screen overlaid on a game may include a website separate from the video game, for instance a website of an advertiser. Ex. 1003 ¶154. At minimum, a POSITA would have found it obvious for the sub-screen to be a browser that displays a website for the advertiser, for instance a website for the fast food restaurant. *Id.* Indeed, by the priority date of the ’662 patent mobile devices (e.g., Blackberry phones and Palm Pilots) often included web browsers that could display a separate website. *Id.* A POSITA would have understood that implementing the sub-screen as a separate browser window was a straightforward design choice and would be advantageous because it would allow advertisers to easily update the website content and advertising message displayed to the user without revision to the software. *Id.*

**13. Claims 13-19**

The language of claims 13-19 is substantially the same to that of claims 1-3, 5-6, 8, 10. Ho in view of Aoki renders claims 13-19 obvious for the same reasons

discussed above for claims 1-3, 5-6, 8, 10. A mapping of each limitation in claims 13-19 to their corresponding limitation in claims 1-3, 5-6, 8, 10 is shown below.

| Claim Limitation      | Corresponding Claim Limitation(s) |
|-----------------------|-----------------------------------|
| 13[pre]               | 1[pre]                            |
| 13[a]                 | 1[a]                              |
| 13[b][1] and 13[b][2] | 1[b][1] and 1[b][2]               |
| 13[c]                 | 1[c]                              |
| 13[d]                 | 1[d]                              |
| 13[e]                 | 1[e]                              |
| 14                    | 2                                 |
| 15                    | 3                                 |
| 16                    | 5                                 |
| 17                    | 6                                 |
| 18                    | 8                                 |
| 19                    | 10                                |

## **XI. GROUND 2: JIAU AND AOKI RENDER OBVIOUS CLAIMS 1-20**

### **A. Jiau (Ex. 1006)**

Jiau is titled *Method and Apparatus for Providing Hotspots in a Shared Virtual World*. Ex. 1006. It was filed as a PCT application designating the United States on May 12, 2000 and published November 23, 2000. *Id.* It therefore qualifies as prior art under at least pre-AIA 35 U.S.C. §102(b).

Jiau relates to “virtual worlds,” such as three-dimensional worlds that may be presented to a player as part of a video game. *Id.*, 1:7-21; Ex. 1003 ¶¶91-94. Jiau explains that previous “three-dimensional games... involve[d] a predetermined, predefined virtual world that does not change,” and is instead “defined by the game designer.” *Id.*, 1:22-24. Jiau thus discloses a virtual world that is “divided into a plurality of ‘lots’” that users “can reserve ... to design as they please.” *Id.*, 1:32-2:2.

Each lot in Jiau’s virtual world includes objects that are fetched from a server as the user moves through the virtual world. *Id.*, 3:18-21. The virtual world may also include “hotspots” that are “assign[ed] [to] a part of an existing object”; “when a user in the virtual world activates the hotspot,” the game “perform[s] a hotspot activity in the virtual world associated with the activated hotspot.” *Id.*, 3:22-26. The hotspot activity may be promotional in nature. “For example, when the user touches or selects an object, a pop-up advertisement may appear.” 16:31-32. A hotspot may also be assigned to portions of the game background—a feature that Jiau calls “hotspaces.” *Id.*, 16:32-17:2.

#### **B. The Jiau-Aoki Combination**

In the proposed Jiau-Aoki combination, Jiau’s teachings provide the basic features of a mobile video game with dynamically updated elements, including hotspot and hotspace elements that are stored on and retrieved from a server, and that trigger hidden in-game content when activated by a player. Ex. 1003 ¶156. To

the extent not already disclosed by Jiau, Aoki's teachings supply additional details regarding locating interactive elements based on coordinate information provided by a server. *Id.*

### **1. Motivation to Combine**

A POSITA would have been motivated to apply Aoki's teachings to Jiau's video game, and would have had a reasonable expectation of success in combining the references. Ex. 1003, ¶¶158-163.

**First**, Jiau provides express teachings that would motivate a POSITA to combine the references. Ex. 1003 ¶159. Specifically, Jiau teaches that objects in its gaming world are located in accordance with coordinate systems. Ex. 1006, 11:21-28, 12:17-21, 15:26-28. For instance, Jiau indicates that objects with an interior (*e.g.*, a building) may use a "sub-coordinate system for locations within their exteriors" (*id.*) and discloses server file formats that define an "init[ial] position" using coordinate information (*id.*, Fig. 17) for gaming objects. Thus, a POSITA would have understood Jiau to disclose or at least suggest that the in-game location for objects, including hotspots and hotspaces, is based on coordinate information from a server. Ex. 1003 ¶159.

Moreover, Jiau's gaming system teaches that objects in the gaming world should be designed so they are "change[able]" and not "predefined." Ex. 1006, 1:22-25. A POSITA would have understood that these changeable and non-predefined

objects must be positioned at the appropriate location in-game and that 2D and 3D games use coordinate information to position gaming elements. Ex. 1003, ¶160; *see also* §XVI.E. A POSITA would have thus looked to other references, such as Aoki, that disclose the simplest and most well known way of locating new or changed elements in a game, namely using coordinate information from a server. Ex. 1003 ¶160. Indeed, Aoki teaches that a server may provide “placement location data” that includes “X and Y coordinates” for positioning elements received from the server (*e.g.*, advertisements). *Id.*, [0072], [0074], Fig. 7. Applying Aoki’s teaching to Jiau would allow changeable and non-predefined elements received from the server to be dynamically placed at an optimal and appropriate location in game. Ex. 1003 ¶160.

**Second**, Aoki’s disclosure of positioning items in game based on coordinate information reflects the application of a known technique. Ex. 1003 ¶161. By the time of the ’662 patent many video games used coordinates extensively to manage and represent the position of objects, characters and elements within the game world. *See* §VI.E. A POSITA would have thus understood that coordinate information was the simplest and most well-known manner of positioning the objects (and associated hotspot and hotspaces) of Jiau. Ex. 1003 ¶161. Moreover, a POSITA would have understood that receiving coordinate information for placing new or changed elements from a server would improve a video game like Jiau by allowing gaming

elements (and their associated advertisements) to be dynamically positioned on screen using the received X and Y coordinates. *Id.*

**Third**, Jiau and Aoki are all directed to the same types of improvements in game design and monetization that the '662 Patent purports to provide. *Id.*, ¶162. A POSITA would have thus looked to Jiau and Aoki when considering how to implement known video games that provide advertising content. *Id.*

**Finally**, Jiau, Aoki, and the '662 patent are all analogous art because the '662 Patent and the prior art references are all in the same field of endeavor. *Id.*, ¶163.

## 2. Claim 1

- a) *Limitation 1(pre): “A method for retrieving and displaying a hot spot associated with a video game operable on a mobile communication device, comprising:”*

To the extent the preamble is limiting, Jiau discloses and renders obvious limitation 1(pre). Ex. 1003 ¶¶164-167.

Jiau discloses “[a] method and apparatus for providing hotspots and hotspaces in a shared three-dimensional virtual world,” e.g., a video game. Ex. 1006, Abstract, 3:27-4:11. Jiau’s “hotspots” and “hotspaces” are both examples of “hot spots” as described by the '662 Patent, because they correspond to designated in-game locations (e.g., a location on an object (“hotspot”) or a location surrounding an associated object (“hotspace”)) that “cause actions to occur,” such as displaying “a pop-up advertisement,” when the user interacts with the designated location (e.g.,

“the user touches or selects the object” or “a user walks within ten virtual feet of a hotspot”). *Id.*, 16:29-17:4.

Jiau further discloses that the virtual world runs on a “client system,” such as a “computer or similar data processing system having one or more processors and appropriate data storage.” *Id.*, 7:7-10. A POSITA would understand Jiau’s disclosure of a “computer or similar data processing system” to teach “a mobile communication device,” such as cellular phones, PDAs and other handheld devices. Ex. 1003 ¶166; *see also* Ex. 1001, 1:15-18 (“mobile communication devices” may “include[e] cellular phones, PDAs [Personal Digital Assistants], and other handheld devices capable of communicating with a server”). Indeed, by the priority date of the ’662 patent POSITAs understood the term “computer” included personal digital assistants (*e.g.*, the Palm Pilot) and smartphones (*e.g.*, Blackberries), which were sometimes referred to as “handheld computers.” Ex. 1003 ¶166. And to the extent these devices are not deemed to be disclosed by Jiau’s disclosure that the video game may be operated on a computer, they would at least be disclosed by Jiau’s disclosure of the video game operating on a “similar data processing system.” *Id.*

To the extent Jiau does not disclose or render obvious this limitation, the limitation was obvious in view of Aoki. Ex. 1003 ¶167. For instance, Aoki teaches that the client system may be, for instance, a “PDA” or “personal telephone.” Ex. 1005, [0060]-[0061], Fig. 1.

- b) *Limitation 1(a): “contacting a server for hot spot information to download, comprising providing the server with at least one of: a game for which hot spot information is desired, a scene for which hot spot information is desired, an element for which hot spot information is desired, the model type of the mobile communication device, the service plan to which the mobile device belongs, the service provider for the mobile communications device, the base location of the mobile communication device, the current location of the mobile communication device, a version identifier for hot spot information currently on the mobile communication device, user-identification information, preset location, amount of game-play time, game score, and level of play;*

Jiau discloses and renders obvious limitation 1(a). Ex. 1003 ¶¶168-171.

**“contacting a server for hot spot information to download”:** Jiau further discloses a “server system” that has “one or more processors and appropriate data storage, such as memory or mass-storage device.” Ex. 1006, 7:7-12. The server also includes a “database” that stores information about “objects” in the game world. *Id.*, 7:23-25, 8:7-10. “Hotspot” and “hotspace” information are stored as part of the object definition. *Id.*, 6:4, Fig. 13(b). Jiau explains that the “client system” (*i.e.*, mobile communication device) can communicate with the server system “in order to load lots and objects from [the] server system,” including the stored hotspot information. *Id.*, 6:32-7:2, 10:5-8 (“whenever a lot (or object) is needed, it is loaded from the server if it has not previously been cached”), Figs. 8, 13(a)-(b), 17.

**“comprising providing the server with at least one of...”**: Jiau discloses that the client system provides the server with “lot/object id(s).” Ex. 1006, 17:7-14, Fig. 8. As previously explained, a “lot” is a portion of the virtual world (*i.e.*, a scene), which may include objects (*i.e.*, elements) that comprise “hot spots.” *Id.*, 1:32-2:3, 8:7-10, Figs. 13(a)-13(b). Thus, a POSITA would have understood that Jiau discloses providing the server with at least an example of a “scene for which hot spot information is desired” (*i.e.*, a lot id) and an “element for which hot spot information is desired” (*i.e.*, an object id). Ex. 1003 ¶170. Moreover, Jiau also teaches that lot and objects are associated with a “user id.” Ex. 1006, 17:27-32. Thus, a POSITA would have also understood that the client system provides “user-identification information” (*i.e.* a user id) in order to access and download the lots and objects comprising hot spot information. Ex. 1003 ¶170

To the extent Jiau does not disclose or render obvious this limitation, the combined teachings of Jiau and Aoki render the limitation obvious. Ex. 1003 ¶171. Aoki discloses that a game terminal (e.g., a “telephone”) that is operable to run a video game provides an advertisement management server “the ID of the player who uses the game terminal” and a “game ID” in order to obtain advertisements. Ex. 1005, [0077]. Thus, in the combined Jiau-Aoki system the client end device would continue to download hotspot and hotspace information, and would do so after providing the server the ID of the player (“user-identification information”) and a

game ID (“a game for which hot spot information is desired”). Ex. 1003 ¶¶171. A POSITA would have been motivated to apply Aoki’s teachings regarding providing to the server a user ID and game ID in implementing Jiau’s video game. *Id.* A POSITA would have understood that providing the server with game and user identification information would improve Jiau by allowing the server to provide advertisements that are targeted to specific users and games. *Id.*; see also Ex. 1008, [0054]-[0055] (describing various characteristics that may be used for targeting advertisements, including user information and game type).

- c) *Limitation 1(b): “downloading hot spot information from the server to the mobile communication device, the hot spot information comprising: (1) hidden content for presenting to the user when the hot spot is activated; and (2) coordinate information”*

Jiau discloses and renders obvious limitation 1(b). Ex. 1003 ¶¶172-177.

***“downloading hot spot information from the server to the mobile communication device”***: Jiau discloses that the “client systems... communicate with server system 108 in order to load lots and objects from server system 108.” Ex. 1006, 6:31-7:2, 10:11-21, 13:7-18, 17:7-13, Fig. 8. Jiau further discloses that the downloaded lots and objects comprise hotspot and hotspace information. *Id.*, 16:30-17:6 (“Objects can have predetermined ‘hotspots’ that cause actions to occur when the user touches or selects the object.”), 17:25-33 (“Fig. 13(b) is an example of a data structure showing properties of a lot stored in server system 108....The

exemplary properties of Fig. 13(b) include... lists of hotspots and hotspaces 1358...”), Figs. 13(b), 17.

**“the hot spot information comprising: (1) hidden content for presenting to the user when the hot spot is activated”**: Jiau discloses that the hotspot and hotspace information comprises a link that when activated displays an advertisement or animation. Ex. 1006, Abstract (“Activation of a hotspot or a hotspace link can also cause an action, such as display of an advertisement or an animation.”), 12:22-28, Fig. 9(a). For instance, hotspot information may comprise a link to a pop-up advertisement that is displayed when a user touches or selects the hotspot. *Id.*, 16:29-6. Similarly, hotspace information may comprise a link to a pop-up advertisement that is displayed when a user walks within ten virtual feet of the hotspace. *Id.*

**“and (2) coordinate information”**: Jiau discloses that where an object has an interior that is “larger or smaller” than the object exterior a “sub-coordinate system” is used. Ex. 1006, 11:21-28, 12:17-21, 15:26-28. A POSITA would have understood Jiau’s discussion of a “sub” coordinate-system to disclose that the game uses a main coordinate system to position items that are exterior to the object, such as hotspots and hotspaces. *Id.*; Ex. 1003 ¶175. Moreover, Figure 17 of Jiau discloses a file for storing object information that may be provided to a client device by a server. Ex. 1006, 19:27-20:3. The information in the file includes coordinate information, such as the “init[ial] position” of a hotspot or hotspace link (fx, fy, fz):

```
typedef struct
{
    DWORD dwObjectID; // source of link
    LINKEVENT link; // source of link
    float fx, fy, fz; // init position
    float fdx, fdy, fdz; // init orintation
    float fux, fuy, fuz;
} FOREVER21LINK;
```

*Id.*, 19:27-20:3, Fig. 17; Ex. 1003 ¶176.

To the extent Jiau does not disclose or render obvious this limitation, the limitation was obvious in view of Aoki. Ex. 1003 ¶177. Aoki discloses that a server may provide a video game operable on a mobile communication device (e.g., a “PDA” or “personal telephone”) with advertisements to be displayed in a video game. Ex. 1005, [0060]-[0061], Fig. 1. For instance, the server may provide an “advertisement image” along with “advertisement placement location data.” *Id.* The advertisement placement location data includes a “replacing position” that specifies the in-game location for the advertisement using “X and Y coordinates.” *Id.* Thus, when the time arrives to display an advertisement image, the game can place the advertisement image “into the point designated by the ‘replacing position’” using the X and Y coordinates. *Id.*, [0072], [0074], Fig. 7. In the combined Jiau-Aoki system, the client end device would continue to download from the server hotspot and hotspot information, and would also receive location data specifying, using

coordinate information, an in-game location where the hotspace and hotspot information (and associated advertisements or animations) should be displayed. Ex. 1003 ¶177.

- d) *Limitation 1(c): “designating a non-promotional location in-game associated with activating the hot spot based on the coordinate information”*

Jiau discloses and renders obvious limitation 1(c). Ex. 1003 ¶¶178-182.

**“designating a non-promotional location in-game associated with activating the hot spot”**: Jiau’s “hotspot” is location that causes an action to occur when the user touches or selects an associated object. Ex. 1006, 16:30-32. For example, Figure 11(e) shows “an object 1192 [yellow] having a hot spot link 1194” that may be activated when the user touches or selects the object:

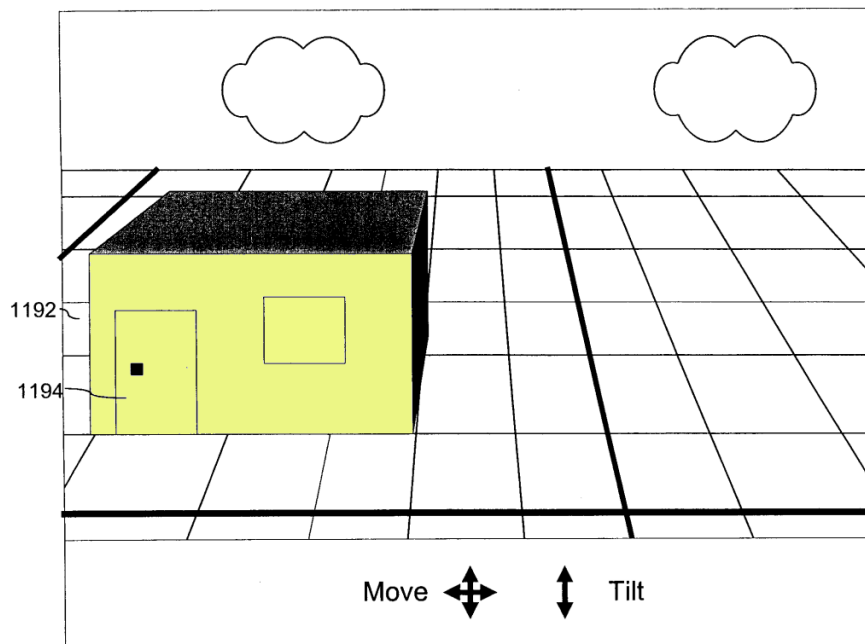


Fig. 11(e)

*Id.*, Fig. 11(e). A POSITA would have understood that the location of the object that the user interacts with to activate the hotspot link (*e.g.*, door 1194) is a non-promotional location in-game associated with activating the hot spot because it does not display any advertising or other promotional message. Ex. 1003 ¶179.

Similarly, Jiau discloses that a “hotspace” is represented by an in-game location that is “a predetermined space surrounding an object” with which the hotspace is associated. Ex. 1006, 16:29-17:1. A “hotspace” may cause a pop-up advertisement to unexpectedly appear when a user passes through a background location within a predetermined distance of an associated object. *Id.*, 15:4-8, 17:1-6, Fig. 11(d). Jiau discloses that the designated location for the hotspace is a non-promotional location, specifically, because it does not display promotional content until after a user has activated the hotspace. Ex. 1003 ¶180.

**“based on the coordinate information”**: As explained in connection with limitation 1(b), a POSITA would have understood Jiau’s disclosures to teach coordinate information is provided by the server to locate the hotspot and hotspace information at the appropriate locations in-game. Ex. 1003 ¶181.

To the extent Jiau does not disclose or render obvious this limitation, the limitation was obvious in view of Aoki. Ex. 1003 ¶182. As explained in connection with limitation 1(b), Aoki discloses that a server may provide an “advertisement image” along with “advertisement placement location data” that specifies the in-

game location for the advertisement using “X and Y coordinates.” Applying Aoki’s teaching to Jiau, a POSITA would have found it obvious for the server to provide coordinate information that specifies the location where a non-promotional hotspot or hotspot link should be positioned. Ex. 1003 ¶182.

e) *Limitation 1(d): “displaying an object at the designated non-promotional location”*

Jiau discloses limitation 1(d). Ex. 1003 ¶¶183-184. For instance, Jiau discloses that a hotspot or hotspot may define a location that contains one of several types of background objects, such as a “solid object,” “object with associated action,” and a “URL object.” Ex. 1005, 11:18-12:12. For instance, Figure 11(e) discloses an exemplary object (yellow):

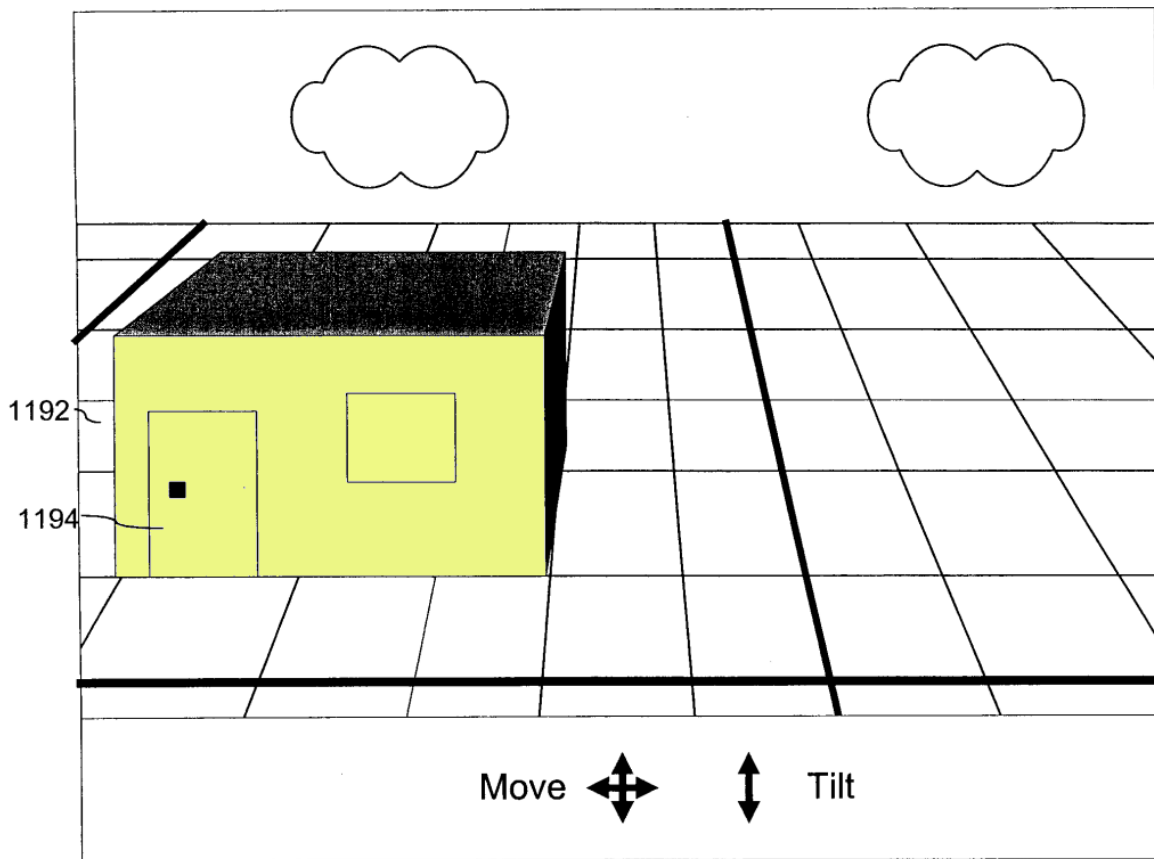


Fig. 11(e)

*Id.*, Fig. 11(e). The displayed objects are non-promotional because they do not display promotional content until a user has performed a predetermined action. Ex. 1003 ¶184.

f) *Limitation 1(e): “displaying the hidden content when the user activates the hot spot.”*

Jiau discloses limitation 1(e). Ex. 1003 ¶¶185-186. For instance, Jiau discloses that the hotspot and hotspace information comprises a link that when activated displays an advertisement or animation. Ex. 1006, Abstract, 12:22-28, 16:29-6, Fig. 9(a).

**3. Claim 2: “The method of claim 1, wherein the hidden content is promotional.”**

Jiau discloses the additional limitation of claim 2. Ex. 1003 ¶¶187-188. For example, Jiau explains that “[a]ctivation of a hotspot or a hotspot link can also cause an action, such as display of an advertisement.” Ex. 1006, Abstract, 12:23-27, 16:29-17:6. An advertisement is “promotional” content. Ex. 1003 ¶188.

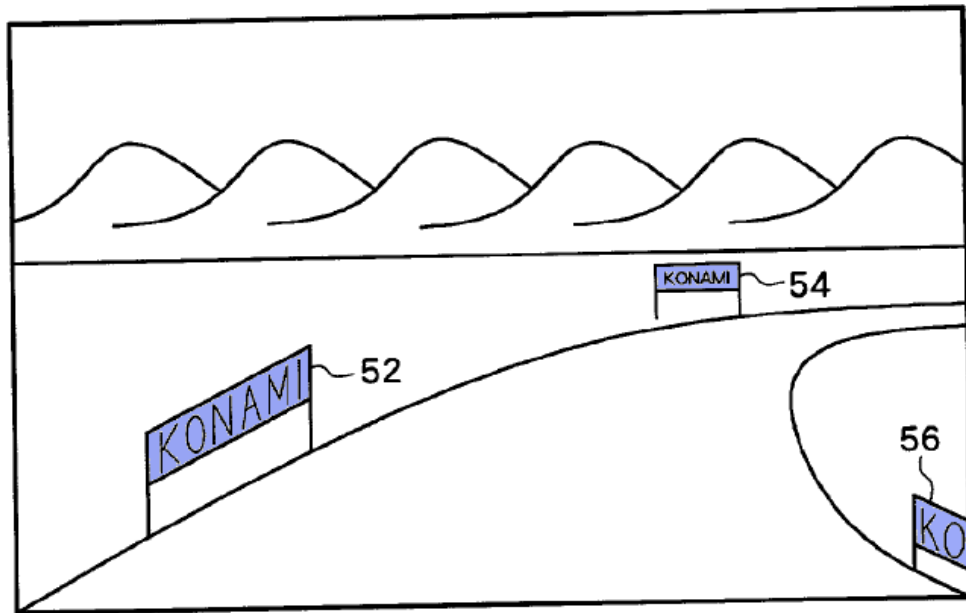
**4. Claim 3: “The method of claim 1, wherein the coordinate information comprises time information for placing the hot spot in-game.”**

Aoki discloses that the coordinate information may comprise time information for placing the hot spot in-game. Ex. 1003 ¶189. For instance, Aoki teaches that the server provides “advertisement period” information that is associated with the “advertisement placement location data” containing coordinate information. Ex. 1005, [0072], Fig. 5. The advertisement period “indicates a period during which the relevant advertisement is being displayed,” for instance Aoki provides an example in which a first advertisement has an “advertisement period” of January 1, 2001 to February 28, 2001. *Id.* Aoki teaches that the client device consults the advertisement period to determine whether or not an advertisement image should be placed in game or deleted. *Id.*, [0073]. A POSITA would have understood that using such time information was desirable so that ads are not displayed past their expiration. Ex. 1003 ¶189.

5. **Claim 4: “The method of claim 1, wherein the coordinate information comprises one or more predefined in-game locations.”**

Jiau discloses the additional limitation of claim 4. Ex. 1003 ¶¶190-191. For instance, Jiau discloses that the hotspot and hotspace information may be positioned at predefined in-game locations that are specified by coordinates. Ex. 1006, Fig. 17 (showing object with an “init[ial] position” of “fx, fy, fz”). Similarly, Figures 11(d) and 11(e) illustrate objects at pre-defined locations that are associated with hotspot and hotspace information. *Id.*, 15:2-10, 15:17-16:2, Figs. 11(d), 11(e).

Aoki also discloses that the coordinate information comprises one or more predefined in-game locations. For instance, Aoki teaches that the coordinate information may comprise a location on “placard objects 52, 54, 56” that “are installed along the road built in the game space”:



*Id.*, [0068], Figs. 3, 7. The placard objects are a predefined in-game location because their location is static along the road. Ex. 1003 ¶191.

**6. Claim 5: “The method of claim 1, wherein the hot spot information further comprises an object to be displayed in-game at the non-promotional location.”**

Jiau discloses the additional limitation of claim 5. Ex. 1003 ¶¶192-193. Jiau discloses that a hotspace or hotspot may define a location that contains one of several types of background objects, such as a “solid object,” “object with associated action,” and a “URL object.” Ex. 1005, 11:18-12:12. Figure 11(e), for example, illustrates one type of object (building 1192) displayed at a non-promotional location associated with a hotspace. *Id.*, 15:17-16:2, Fig. 11(e).

**7. Claim 6: “The method of claim 1, wherein the hot spot information specifies a type of manipulation required to activate the hot spot.”**

Jiau discloses the additional limitation of claim 6. Ex. 1003 ¶¶194-195. For example, Jiau discloses that a hotspot or hotspace may be defined so that it is activated when a user “clicks on it or walks into it.” Ex. 1006, 2:14-16, 15:13-18.

**8. Claim 7: “The method of claim 1, further comprising saving on the mobile communication device a version identifier for the downloaded hot spot information.”**

Jiau discloses and renders obvious the additional limitation of claim 7. Ex. 1003 ¶¶196-197. For example, as discussed in §XI.B.2.b, Jiau discloses maintaining on the client and server “object ids,” wherein an object may have a

hotspot or hotspace. Ex. 1006, 17:14-18:9. A POSITA would have understood that an object id may be updated when an object is changed or modified, such that the object id would constitute a version identifier. Ex. 1003 ¶197. Additionally, Jiau discloses and renders obvious that a file describing a lot or object may have “version” information as part of the header definition. Ex. 1006, Fig. 17 (“short nVersion”), 19:27-20:3.

**9. Claim 8: “The method of claim 1, wherein the hidden content comprises one or more objects selected from the group consisting of messages, graphics, animations, and sounds.”**

Jiau discloses the additional limitation of Claim 8. Ex. 1003 ¶¶198-199. For example, Jiau teaches that “[a]ctivation of a hotspot or a hotspace link can also cause an action, such as display of an advertisement or an animation.” Ex. 1006, Abstract, 14:9-18.

**10. Claim 9: “The method of claim 8, wherein the hidden content is promotional.”**

Jiau discloses the additional limitation of Claim 9. Ex. 1003 ¶¶200-201. As described above in §XI.B.3, Jiau teaches that the hidden content may be a promotional advertisement.

**11. Claim 10: “The method of claim 1, wherein the hidden content is displayed in a pop-up window.”**

Jiau discloses the additional limitation of Claim 10. Ex. 1003 ¶202. For instance, Jiau discloses that a “hotspot” or “hotspace” may cause a “pop-up advertisement” to appear when activated. Ex. 1006, 16:29-17:6, 15:4-8, Fig. 11(d).

**12. Claim 11: “The method of claim 1, wherein the hidden content is displayed on the mobile communication device in a website separate from the video game.”**

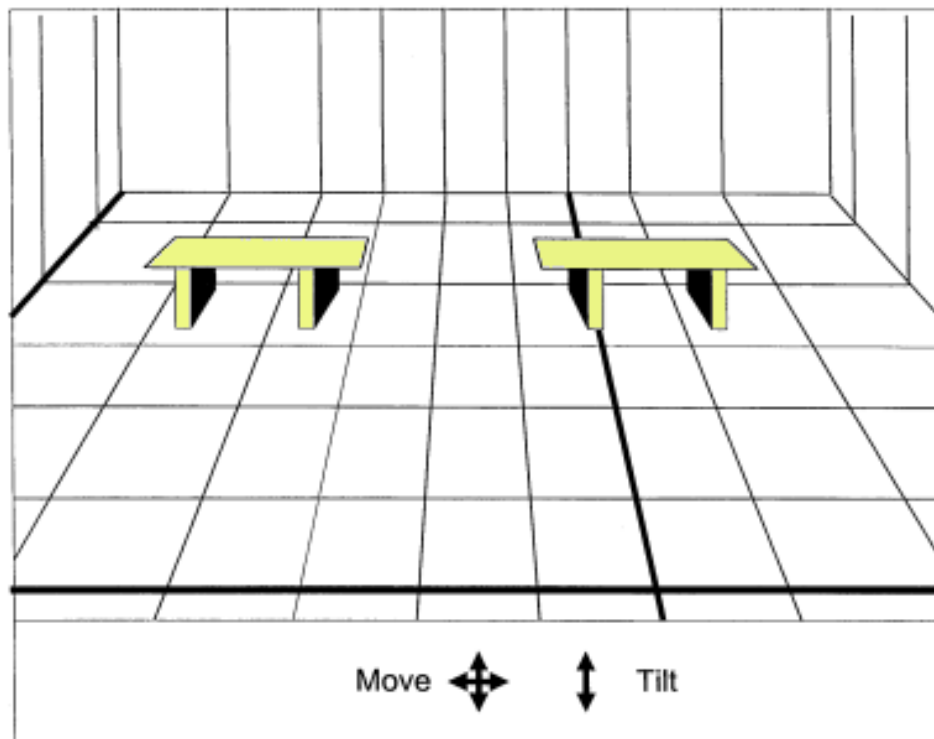
Jiau discloses the additional limitation of claim 11. Ex. 1003 ¶¶203-204.

For instance, Jiau discloses that engaging a “hotspot” or “hotspace” may cause a “pop-up advertisement” to appear. Ex. 1006, 16:29-17:6. Jiau teaches that the pop-up advertisement may be a website that appears in a “separate window.” Ex. 1006, 2:20-21 (“Users can also associate objects with the URLs of pages on the world wide web”), 12:11-12 (describing “URL object”), 12:22-28 (“a web page is fetched and displayed (possibly in a separate window)...”), Fig. 9(b), Fig. 17. A POSITA would have also understood that mobile devices (e.g., Blackberry phones and Palm Pilots) included browsers for displaying websites in a separate window. Ex. 1003 ¶204.

**13. Claim 12: “The method of claim 1, wherein the hidden content comprises a second hot spot.”**

Jiau discloses and renders obvious the additional limitation of claim 12. Ex. 1003 ¶¶205-206. Jiau teaches that an object may be associated with “a plurality of

hotspots” (Ex. 1006, Claim 8) and that each hotspot may be “activated separately” with “different hotspot activities associated therewith” (*id.*, Claims 9-10). For instance, Jiau discloses that “Fig. 11(e) shows an example of an object 1192 have an hotspot link 1194 (e.g., a door-shape).” Ex. 1006, 15:17-31. When a user activates the hotspot by “collid[ing] with or pass[ing] sufficiently close to the hotspot,” hidden content may be displayed, such as the “interior of object 1192” that is shown in Figure 11(f). *Id.* The hidden content may comprise additional hotspots associated with the furniture (yellow) in the building interior that are activated when a user “collides with or passes sufficiently close” to them:



*Id.*; Ex. 1003 ¶206.

**14. Claim 13-20**

The language of claims 13-20 is substantially the same to that of claims 1-3, 5-6, 8, 10, 12. Jiau in view of Aoki renders claims 13-20 obvious for the same reasons discussed above for claims 1-3, 5-6, 8, 10, 12. A mapping of each limitation in claims 13-20 to their corresponding limitation in claims 1-3, 5-6, 8, 10, 12 is shown below.

| <b>Claim Limitation</b> | <b>Corresponding Claim Limitation(s)</b> |
|-------------------------|------------------------------------------|
| 13[pre]                 | 1[pre]                                   |
| 13[a]                   | 1[a]                                     |
| 13[b][1] and 13[b][2]   | 1[b][1] and 1[b][2]                      |
| 13[c]                   | 1[c]                                     |
| 13[d]                   | 1[d]                                     |
| 13[e]                   | 1[e]                                     |
| 14                      | 2                                        |
| 15                      | 3                                        |
| 16                      | 5                                        |
| 17                      | 6                                        |
| 18                      | 8                                        |
| 19                      | 10                                       |
| 20                      | 12                                       |

**XII. GROUND 3: HO AND KIM RENDER OBVIOUS CLAIMS 1-11, AND 13-19**

**A. Kim (Ex. 1007)**

Kim was filed on August 30, 2000 and issued on August 9, 2005. Ex. 1007. It qualifies as prior art under at least pre-AIA 35 U.S.C. §102(b).

Kim “relates to a method of advertisement which is applied to a game on the internet.” *Id.*, 1:14-17. Kim states that “passive banner advertisements” are not effective, and proposes solving this problem by allowing more “active” advertisements that are inserted in a game program. *Id.*, 1:64-2:25.

Kim discloses that “an advertisement item” is incorporated into a game program so that the character of the game can “find or pick it.” *Id.*, 8:46-52. For instance, Kim explains that a monster may appear at a “certain place and certain time” in the game. *Id.*, 8:60-64. If a user’s character encounters and fights the monster, an “advertisement item relevant to the monster can be shown at the spot where the monster [] dies.” *Id.*, 8:49-52.

Kim further discloses that the client and server exchange coordinate information to display gaming elements and advertisements. *Id.*, 8:2-11 (“server system needs to transfer co-ordinates to each client system.”), 8:24-43, Fig. 5. For instance, “[a]ll movement of monsters is controlled by server and the monster appears at a certain time in a certain place by use of generator of column.” *Id.*, 9:7-

39. The server transfers packets with coordinate information for the monster and advertisements. *Id.*, 9:14-19.

## **B. The Ho-Kim Combination**

In the proposed Ho-Kim combination, Ho's teachings provide the basic features of a mobile video game with dynamically updated elements, including interactive elements (*i.e.*, hot spots) that are stored on and retrieved from a server, and that trigger hidden in-game content when activated by a player. Ex. 1003 ¶208. To the extent not already disclosed by Ho, Kim's teachings supply additional details regarding the use of coordinate information provided by a server for placement of the interactive elements. *Id.*

### **1. Motivation to Combine**

A POSITA would have been motivated to apply Kim's teachings to Ho's video game, and would have had a reasonable expectation of success in combining the references. Ex. 1003, ¶¶209-215.

**First**, Ho provides express teachings that would motivate a POSITA to combine the references. Ex. 1003 ¶210. For instance, as discussed in §X.C.1, a POSITA would have understood that the new or changed interactive information elements in Ho must be positioned at the appropriate location in-game and that 2D and 3D games use coordinate information to position gaming elements. Further, Ho only provides high-level implementation details of how interactive information

elements may be located in-game. Ex. 1004, 7:17-23 (interactive information elements may be “located at a juncture in the game”). Thus, a POSITA would look to other references, such as Kim, for additional implementation details regarding how to locate these elements. Ex. 1003 ¶210. Kim discloses locating gaming elements based on coordinate information from a server, which was a common and straightforward technique for positioning gaming elements. Ex. 1007, 8:2-11 (“server system needs to transfer co-ordinates to each client system.”), 8:24-43, Fig. 5; §IV.E.

Moreover, Kim discloses that its teachings are applicable to the same type of interactive information elements disclosed in Ho. *Compare* Ex. 1004, 5:2-10 (disclosing “hamburger monster 56” that a user can slay to display an advertisement) with Ex. 1007, 8:49-53 (disclosing a “monster” that a user can defeat to display an advertisement). Thus, a POSITA would have recognized that Ho’s interactive information elements may be located in-game based on coordinate information, as taught in Kim. Ex. 1003 ¶210. Applying Kim’s teaching to Ho would allow new and changed elements (e.g., new or changed monsters or items in the game) to be dynamically placed at an optimal and appropriate location in game. *Id.*

**Second**, Kim’s disclosure of positioning items in game based on coordinate information is a known technique. Ex. 1003 ¶211. For instance, as discussed in §X.C.1, a POSITA would have understood that locating Ho’s interactive information

elements and advertisements based on the known technique of using coordinate information from a server would improve Ho's video game by permitting a game to include new, dynamic elements and advertisements whose positioning information may be provided in real time. Ex. 1003 ¶211.

**Third**, Ho and Kim are all directed to the same types of improvements in game design and monetization that the '662 Patent purports to provide. *Id.*, ¶212. A POSITA would have thus looked to Ho and Kim when considering how to implement known video games that provide advertising content. *Id.*

**Finally**, Ho, Kim, and the '662 patent are all analogous art because the '662 Patent and the prior art references are all in the same field of endeavor. *Id.*, ¶213.

## 2. Claim 1

### *a) Limitation 1(pre)*

To the extent the preamble is limiting, Ho discloses limitation 1(pre). See §X.C.2.a.

### *b) Limitation 1(a)*

Ho discloses and renders obvious limitation 1(a). See §X.C.2.b.

### *c) Limitation 1(b)(1)-(2)*

Ho discloses and renders obvious limitation 1(b). See §X.C.2.c.

To the extent Ho does not disclose or render obvious the hot spot information comprising "coordinate information," the limitation was obvious in view of Kim.

Ex. 1003 ¶¶217. Kim discloses interactive information elements that are similar to those disclosed in Ho. *Compare* Ex. 1004, 5:2-10 (disclosing “hamburger monster 56” that a user can slay to display an advertisement) *with* Ex. 1007, 8:49-53 (disclosing a “monster” that a user can defeat to display an advertisement). Kim further discloses locating interactive information elements based on coordinate information from a server. Ex. 1007, 8:2-11 (“server system needs to transfer coordinates to each client system.”), 8:24-43, Fig. 5; *see also id.*, Claim 2 (“transferring a contents set at a time when co-ordinates and figure are requested by said client system.”).

*d) Limitation 1(c)*

Ho discloses and renders obvious limitation 1(c). *See* §X.C.2.d.

To the extent Ho does not disclose designating the non-promotional location “based on the coordinate information,” the limitation was obvious in view of Kim. Ex. 1003 ¶¶218-219. As explained in connection with limitation 1(b), Kim discloses locating interactive information elements based on coordinate information from a server. Applying Kim’s teaching to Ho, a POSITA would have found it obvious for the server to provide coordinate information that specifies the location of interactive information elements and hidden content that is displayed upon activation. Ex. 1003 ¶219.

*e) Limitation 1(d)*

Ho discloses limitation 1(d). *See* §X.C.2.e.

*f) Limitation 1(e)*

Ho discloses limitation 1(e). *See* §X.C.2.f.

**3. Claim 2**

Ho discloses the additional limitation of claim 2. *See* §X.C.3.

**4. Claim 3**

Ho discloses and renders obvious that the coordinate information may comprise time information. *See* §X.C.4.

Kim also discloses that the coordinate information may comprise time information for placing the interactive information elements in-game. Ex. 1003 ¶224. For instance, Kim discloses that a server may provide “time data” and that interactive information elements (e.g., “monsters”) and advertisements may “appear[] at a certain time in a certain place” controlled by the server. Ex. 1007, 9:6-16, 8:60-64, 2:67-3:4 (“transferring said data to a client system by time data of a server system.”); *see also id.*, Claim 6. Applying Kim’s teaching to Ho, a POSITA would have found it obvious for the server to provide coordinate information that includes time data for interactive information elements and hidden content. Ex. 1003 ¶224.

**5. Claim 4**

Ho discloses and renders obvious the additional limitation of claim 4. *See* §X.C.5. Additionally, Kim also discloses that an interactive information element may be designed to “consistently appear in a specific area which is required by [the] game.” Ex. 1007, 8:60-64.

**6. Claim 5**

Ho discloses the additional limitation of claim 5. *See* §X.C.6.

Kim also discloses this limitation. Ex. 1003 ¶¶227-228. For instance, Kim explains that a monster may be located at a location in the game and that an advertisement is displayed only if a user challenges and slays the monster. Ex. 1007, 8:49-57. Because the user may pass the location without challenging the monster and seeing the promotional advertisement, the location of the monster is a non-promotional location. Ex. 1003 ¶228.

**7. Claim 6**

Ho discloses the additional limitation of claim 6. *See* §X.C.7. Similarly, Kim discloses similarly types of manipulations that can activate the hotspot, such as challenging and slaying a monster. Ex. 1007, 8:49-63; Ex. 1003 ¶¶229-230.

**8. Claim 7**

Ho discloses and renders obvious the additional limitation of claim 7. *See* §X.C.2.b and §X.C.8.

**9. Claim 8**

Ho discloses the additional limitation of Claim 8. See §X.C.9.

**10. Claim 9**

Ho discloses the additional limitation of Claim 9. See §X.C.10.

**11. Claim 10**

Ho discloses and renders obvious the additional limitation of Claim 10. See §X.C.11.

**12. Claim 11**

Ho discloses the additional limitation of Claim 11. See §X.C.12.

**13. Claims 13-19**

The language of claims 13-19 is substantially the same to that of claims 1-3, 5-6, 8, 10. Ho in view of Kim renders claims 13-19 obvious for the same reasons discussed above for claims 1-3, 5-6, 8, 10. A mapping of each limitation in claims 13-19 to their corresponding limitation in claims 1-3, 5-6, 8, 10 is shown below.

| <b>Claim Limitation</b> | <b>Corresponding Claim Limitation(s)</b> |
|-------------------------|------------------------------------------|
| 13[pre]                 | 1[pre]                                   |
| 13[a]                   | 1[a]                                     |
| 13[b][1] and 13[b][2]   | 1[b][1] and 1[b][2]                      |
| 13[c]                   | 1[c]                                     |
| 13[d]                   | 1[d]                                     |
| 13[e]                   | 1[e]                                     |

| Claim Limitation | Corresponding Claim Limitation(s) |
|------------------|-----------------------------------|
| 14               | 2                                 |
| 15               | 3                                 |
| 16               | 5                                 |
| 17               | 6                                 |
| 18               | 8                                 |
| 19               | 10                                |

### **XIII. GROUND 4: JIAU AND KIM RENDER OBVIOUS CLAIMS 1-20**

#### **A. Jiau-Kim Combination**

In the proposed Jiau-Kim combination, Jiau's teachings provide the basic features of a mobile video game with dynamically updated elements, including interactive elements (*i.e.*, hot spots) that are stored on and retrieved from a server, and that trigger hidden in-game content when activated by a player. Ex. 1003 ¶237. To the extent not already disclosed by Jiau, Kim's teachings supply additional details regarding the use of coordinate information provided by a server for placement of the interactive elements. The Jiau-Kim combination renders claims 1-20 obvious.

#### **1. Motivation to Combine**

A POSITA would have been motivated to apply Kim's teachings to Jiau's video game, and would have had a reasonable expectation of success in combining the references. Ex. 1003, ¶¶239-243.

**First**, Jiau provides express teachings that would motivate a POSITA to combine the references. Ex. 1003 ¶240. For instance, as discussed in §XI.B.1, Jiau discloses that its game uses coordinate information to define positions of objects, including hotspots and hotspaces. Jiau also teaches that objects in the gaming world should be designed so they are “change[able]” and not “predefined.” Ex. 1006, 1:22-25. A POSITA would have looked to references, such as Kim, for further confirmation and details regarding locating these changeable and non-predefined objects. Ex. 1003 ¶240. Kim teaches that a server may provide coordinate information for placing in-game objects. Ex. 1007, 8:2-11 (“server system needs to transfer co-ordinates to each client system.”), 8:24-43, Fig. 5. A POSITA would be motivated to applying Kim’s teaching to Jiau because it would allow new and changed hotspot and hotspot objects received from the server to be dynamically placed at an appropriate location in game. Ex. 1003 ¶240.

**Second**, Kim’s disclosure of positioning items in game based on coordinate information is a known technique. Ex. 1003 ¶241. POSITAs understood 2D and 3D games used coordinate information to place objects in-game. §VI.E. And as discussed in §XI.B.1, a POSITA would have understood that locating Jiau’s hotspots and hotspaces based on the known technique of using coordinate information from a server would improve Jiau’s video game by permitting a game to include new,

dynamic elements and advertisements whose positioning information may be provided in real time. Ex. 1003 ¶241.

**Third**, Jiau and Kim are all directed to the same types of improvements in game design and monetization that the ‘662 Patent purports to provide. *Id.*, ¶242. A POSITA would have thus looked to Jiau and Kim when considering how to implement known video games that provide advertising content. *Id.*

**Finally**, Jiau, Kim, and the ‘662 patent are all analogous art because the ‘662 Patent and the prior art references are all in the same field of endeavor, *i.e.*, video games and, in particular, in-game advertising. *Id.*, ¶243.

## 2. **Claim 1**

### *a) Limitation 1(pre)*

To the extent the preamble is limiting, Jiau discloses and renders obvious limitation 1(pre). *See* §XI.B.2.a.

### *b) Limitation 1(a)*

Jiau discloses and renders obvious limitation 1(a). *See* §XI.B.2.b.

### *c) Limitation 1(b)(1)-(2)*

Jiau discloses and renders obvious limitation 1(b). *See* §XI.B.2.c.

To the extent Jiau does not disclose or render obvious the hot spot information comprising “coordinate information,” this the limitation was obvious in view of Kim. Ex. 1003 ¶¶246-247. Kim discloses locating in-game objects based on

coordinate information from a server. Ex. 1007, 8:2-11 (“server system needs to transfer co-ordinates to each client system.”), 8:24-43, Fig. 5; *see also id.*, Claim 2 (“transferring a contents set at a time when co-ordinates and figure are requested by said client system.”). Thus, Kim reinforces Jiau’s disclosures regarding coordinate information and renders obvious locating Jiau’s objects with hotspots and hotspaces based on coordinate information. Ex. 1003 ¶247.

*d) Limitation 1(c)*

Jiau discloses and renders obvious limitation 1(c). *See* §XI.B.2.d.

To the extent Jiau does not disclose designating the non-promotional location “based on the coordinate information,” the limitation was obvious in view of Kim. Ex. 1003 ¶¶248-249. As explained in connection with limitation 1(b), Kim discloses locating interactive information elements based on coordinate information from a server. Applying Kim’s teaching to Jiau, a POSITA would have found it obvious for the server to provide coordinate information that specifies the location where the hotspot or hotspace should be displayed, as well as any hidden content that is displayed upon activation. Ex. 1003 ¶249.

*e) Limitation 1(d)*

Jiau discloses limitation 1(d). *See* §XI.B.2.e.

*f) Limitation 1(e)*

Jiau discloses limitation 1(e). *See* §XI.B.2.f.

**3. Claim 2**

Jiau discloses the additional limitation of claim 2. *See* §XI.B.3.

**4. Claim 3**

Kim discloses that a server may provide “time data” so that in-game objects and advertisements may “appear[] at a certain time in a certain place” controlled by the server. Ex. 1007, 9:6-16, 8:60-64, 2:67-3:4 (“transferring said data to a client system by time data of a server system.”); *see also id.*, Claim 6.

**5. Claim 4**

Jiau discloses the additional limitation of claim 4. *See* §XI.B.5. Additionally, Kim also discloses that coordinate information may be provided so that objects in-game may “consistently appear in a specific area which is required by [the] game.” Ex. 1007, 8:60-64.

**6. Claim 5**

Jiau discloses the additional limitation of claim 5. *See* §XI.B.6.

**7. Claim 6**

Jiau discloses the additional limitation of claim 6. *See* §XI.B.7.

**8. Claim 7**

Jiau discloses and renders obvious the additional limitation of claim 7. *See* §XI.B.8.

**9. Claim 8**

Jiau discloses the additional limitation of Claim 8. *See* §XI.B.9.

**10. Claim 9**

Jiau discloses the additional limitation of Claim 9. *See* §XI.B.10.

**11. Claim 10**

Jiau discloses the additional limitation of Claim 10. *See* §XI.B.11.

**12. Claim 11**

Jiau discloses the additional limitation of Claim 11. *See* §XI.B.12.

**13. Claim 12**

Jiau discloses and renders obvious the additional limitation of Claim 12. *See* §XI.B.13.

**14. Claim 13-20**

The language of claims 13-20 is substantially the same to that of claims 1-3, 5-6, 8, 10, 12. Jiau in view of Kim renders claims 13-20 obvious for the same reasons discussed above for claims 1-3, 5-6, 8, 10, 12. A mapping of each limitation in claims 13-20 to their corresponding limitation in claims 1-3, 5-6, 8, 10, 12 is shown below.

| <b>Claim Limitation</b> | <b>Corresponding Claim Limitation(s)</b> |
|-------------------------|------------------------------------------|
| 13[pre]                 | 1[pre]                                   |
| 13[a]                   | 1[a]                                     |
| 13[b][1] and 13[b][2]   | 1[b][1] and 1[b][2]                      |
| 13[c]                   | 1[c]                                     |
| 13[d]                   | 1[d]                                     |

| Claim Limitation | Corresponding Claim Limitation(s) |
|------------------|-----------------------------------|
| 13[e]            | 1[e]                              |
| 14               | 2                                 |
| 15               | 3                                 |
| 16               | 5                                 |
| 17               | 6                                 |
| 18               | 8                                 |
| 19               | 10                                |
| 20               | 12                                |

## II. SECONDARY CONSIDERATIONS

Petitioner is 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.

## III. DISCRETIONARY FACTORS

### A. 35 U.S.C. §314

In addition to the strong merits presented herein, Petitioner also hereby provides a *Sotera*-type stipulation and stipulates that if the Board institutes *inter partes* review, Petitioner will not pursue in the district court litigation any ground raised or that could have reasonably been raised in the petition. This stipulation precludes discretionary denial under §314(a). *See* Director Vidal Memorandum,

Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation, at 3-5, 7-8 (June 21, 2022).

**B. 35 U.S.C. §325(d)**

The Board should decline to deny institution under §325(d) because the PTO has not previously considered the same or substantially the same prior art and arguments Petitioner presents here, and the Examiner committed error in evaluating the prior art of record. The references relied upon in this Petition, including Ho, Jiau, Aoki, and Kim were neither cited nor considered during prosecution of the ‘662 Patent. None of the cited references contain a substantially similar disclosure of a mobile game with dynamically updated hot spots represented in-game as non-promotional background objects, as is disclosed in the combinations described in the Grounds presented herein. Moreover, the references are non-cumulative to those in prosecution at least because they disclose the limitation the Examiner found missing from the prior art, namely “displaying an object at the designated non-promotional location.” See §VII.C. Thus, the Board should decline to deny institution under the discretionary authority of §325(d).

**IV. CONCLUSION**

Petitioner requests that the Board institute IPR and cancel claims 1-20.

Respectfully submitted,

Date: November 17, 2023

/s/ *James Glass*

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**CERTIFICATION UNDER 37 C.F.R. §42.24**

Under the provisions of 37 C.F.R. §42.24, the undersigned hereby certifies that the word count for the foregoing Petition for *inter partes* review totals 13,717 words, not including the table of contents, table of authorities, mandatory notices, certificates, listing of exhibits, or listing of claims, as permitted under 37 C.F.R. § 42.24(a)(i).

Date: November 17, 2023

/s/ *James Glass*

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that on November 17, 2023, true and correct copies of the foregoing document and supporting materials were served in its entirety on the Patent Owner at the following address of record as listed on PAIR via FedEx:

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Courtesy copies were also sent via electronic mail to Patent Owner's counsel of record in the related district court proceeding:

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Date: November 17, 2023

By: /s/ James M. Glass

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