Exhibit 2007 Zynga, Inc. v. Personalized Media Communications, LLC Case IPR2013-00164 (SCM) <u>Trial@uspto.gov</u> 571-272-7822 Paper 12 Entered: July 25, 2013

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD
ZYNGA, INC. Petitioners,
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Before SALLY C. MEDLEY, KARL D. EASTHOM, and JONI Y. CHANG, <i>Administrative Patent Judges</i> .
CHANG, Administrative Patent Judge.

DECISION Institution of *Inter Partes* Review 37 C.F.R. § 42.108

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# I. INTRODUCTION

Zynga, Inc. ("Zynga") filed a petition requesting an *inter partes* review of claims 1-3, 6, 11-13, and 15 of U.S. Patent 7,908,638 (Ex. 1001, "the '638 patent"). (Paper 3, "Pet.") In response, Personalized Media Communications, LLC ("PMC") filed a patent owner preliminary response on May 10, 2013. (Paper 10, "Prel. Resp.") We have jurisdiction under 35 U.S.C. § 314.

The standard for instituting an *inter partes* review is set forth in 35 U.S.C.

§ 314(a) which provides as follows:

THRESHOLD -- The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Upon consideration of the petition and patent owner preliminary response, we determine that the information presented in the petition establishes that there is a reasonable likelihood that Zynga would prevail with respect to claims 1-3, 6, 11-13, and 15 of the '638 patent. Accordingly, pursuant to 35 U.S.C. § 314, we authorize an *inter partes* review to be instituted as to claims 1-3, 6, 11-13, and 15 of the '638 patent.

# A. Related Proceedings

Zynga indicates that the '638 patent is involved in co-pending litigation captioned *Personalized Media Communications, LLC v. Zynga Inc.*, Case No. 2:12-cv-68-JRG (ED.Tex.). (Pet. 59.) Zynga also filed three other petitions seeking *inter partes* review of the following related patents: Patent 7,860131

(IPR2013-00156), Patent 7,797,717 (IPR2013-00164), and Patent 7,734,251 (IPR2013-00171). (*Id.*)

The '638 patent claims the benefit of a number of U.S. patent applications under 35 U.S.C. § 120. (Ex. 1001, 1:7-21.) Zynga asserts that PMC has conceded in the related District Court litigation that the earliest effective priority date for the '638 patent is September 11, 1987, the filing date of U.S. patent application No. 07/096,096, issued as U.S. Patent 4,965,825. (Pet. 3-4, citing to Ex.1005, 3.) PMC does not contest that assertion in its preliminary response. Therefore, on this record, the Board assumes that the earliest effective filing date of the challenged claims of the '638 patent is no earlier than September 11, 1987.

# B. The '638 Patent

The '638 patent discloses a number of embodiments of personalized program presentations. To illustrate the claimed subject matter, PMC directs our attention to an example described in the '638 patent—namely a signal processing system that provides viewers of a cooking television show, "Exotic Meals of India." (Prel. Resp. 2-4.) In that example, a viewer using a subscriber station stores his or her subscriber specific information, such as the subscriber's family size and dietary preferences. (Ex. 1001, 240:60-241:1.) During the television show, the subscriber is invited to order a recipe which can be printed with proportions and ingredients specific to the subscriber's family size and dietary preferences. (Ex. 1001, 241:65-243:59.)

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# C. Exemplary Claim

Of the challenged claims, claims 1 and 6 are independent claims. With respect to the dependent claims, claims 2-3 directly or indirectly depend from claim 1, and claims 11-13 and 15 ultimately depend from claim 6. For the purposes of this decision, claim 1 is exemplary of the claimed subject matter of the '638 patent, and is reproduced as follows (emphasis added):

1. A method of communicating subscriber station information from a subscriber station to one or more remote stations, said method comprising the steps of:

(1) storing first data which are subscriber specific data at said subscriber station;

(2) receiving and detecting at said subscriber station, in an information transmission received from said one or more remote stations, one or more *instruct signals*;

(3) *computing second data* at said subscriber station by processing said first data in accordance with said one or more instruct signals;

(4) processing said one or more instruct signals to cause at least a portion of *a combined medium presentation* to be outputted at an output device at said subscriber station, wherein said outputted portion of combined medium presentation includes (i) at least one of an image and a sound received at said subscriber station from a remote transmitter station and (ii) a portion of said second data;

(5) receiving a subscriber input in response to said outputted portion of a combined medium presentation; and

(6) transferring said portion of second data from said subscriber station to said one or more remote stations based on said subscriber input. ¢

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# D. Prior Art Relied Upon

Zynga relies upon the following prior art references:

	Bakula	U.S. Patent 4,204,206	May 20, 1980	(Ex. 1009)
	Sitrick	U.S. Patent 4,572,509	Feb. 25, 1986	(Ex. 1008) (Ex. 1010)
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#### II. ANALYSIS

#### A. Claim Construction

As a first step in our analysis for determining whether to institute a review, we determine the meaning of the claims. In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). Under the broadest reasonable construction standard, claim terms are presumed to be given their ordinary and customary meaning as would be understood by one of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). In that regard, we must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

Notwithstanding that neither party expressly provides a claim construction, we find it necessary to construe the following claim terms: "subscriber specific data," "subscriber station," "computing," "instruct signals," "one or more," "at least one of," and "data generated in accordance with said software module and data included in said data module." For this decision, we construe each of these claim terms in turn.

# 1. "Subscriber specific data" (Claims 1 and 6)

We begin our claim construction analysis with the claim language. The claim term "subscriber specific data" appears in all of the challenged independent claims. For instance, claim 1 recites: "storing first data which are *subscriber* 

*specific data* at said subscriber station." (Emphasis added.) Claim 6 recites: "generating one or more instruct signals at said transmission station, said one or more instruct signals being effective to cause said subscriber station to *compute second subscriber specific data* by processing *first subscriber specific data* stored at said subscriber station." (Emphasis added.)

We next review the specification of the '638 patent. See Phillips, 415 F.3d at 1315 (The specification is the single best guide to the meaning of a claim term.). The specification of the '638 patent does not provide an explicit definition for the claim term "subscriber specific data." Nevertheless, the specification of the '638 patent implies that a "subscriber" is a user of the system. (See e.g., Ex. 1001, 1:34-36 ("And television is so-called "user-friendly"; that is, despite technical complexity, television is easy for subscribers to use." Emphasis added.); 1:42-47 ("Program content is the same for every viewer ..., but such electronic media have no capacity for conveying user specific information simultaneously to each user." Emphasis added.); 1:57-65 ("Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences-e.g., 'Stock prices rose today in heavy trading,'-with information of specific relevance to each particular user in the audience-e.g., 'but the value of your stock portfolio went down.'" Emphasis added.)

In the context of the claimed subject matter and specification of the '638 patent, "subscriber specific data" could be any data entered by a user or data

generated based on data entered by a user. Therefore, in the absence of an explicit definition of the claim term, we broadly, but reasonably, construe the claim term "subscriber specific data" as an item of information relevant to a user, entered by a user, or generated based on information that is relevant to a user or entered by a user.

# 2. "Subscriber station" (Claims 1, 6, 11, 12, 13, and 15)

The claim term "subscriber station" appears in numerous claim limitations. For instance, claim 1 recites: "processing said one or more instruct signals to cause at least a portion of a combined medium presentation to be outputted at an output device at said *subscriber station*." (Emphasis added.) Claim 6 recites: "transmitting said information transmission and said one or more instruct signals from said transmission station to said *subscriber station*." (Emphasis added.)

As we discussed above, the specification of the '638 patent implies that a "subscriber" is a user of the system. In light of the specification and claimed subject matter of the '638 patent, we construe "subscriber station" as a user device that has input and output capabilities, such as a computer that allows a user to input or view information, or a television that has input and displaying capabilities.

# 3. "Computing" or "To compute" (Claims 1 and 6)

The claim term "computing" (or in the form of "to compute") appears in following limitations: "*computing* second data at said subscriber station by processing said first data in accordance with said one or more instruct signals" (claim 1, emphasis added); and "said one or more instruct signals being effective to

cause said subscriber station *to compute* second subscriber specific data" (claim 6, emphasis added).

PMC through its arguments related to prior art grounds of unpatentability, which we address *infra*, implies that the claim term "computing" must be performing a numeric calculation. (*See e.g.*, Prel. Resp. 18 "Even if the stock information received is *filtered* such that only some of the stock information is displayed, Petitioner fails to show that *such filtering teaches computing* of a second subscriber data," emphasis added.) We observe that PMC's construction is overly narrow in light of the specification and claims of the '638 patent. Indeed, the specification of the '638 patent does not provide an explicit definition for that claim term, and the claim language does not limit the "computing" step to perform a numeric calculation.

While we are mindful that the specification of the '638 patent provides an example that uses a numeric calculation (*e.g.*, Ex. 1001, 244:5-9 "*computes* that the recipe of [a] family [] of two adults calls for one pound of halibut and two teaspoonfuls of said Paste"), we nevertheless decline to import such a limitation from the specification into the claim. *See Phillips*, 415 F.3d at 1323 (Although the specification often describes very specific embodiments of the invention, our reviewing court has repeatedly warned against confining the claims to those embodiments.).

In the context of computer systems, the word "compute" ordinarily is understood as "to use a computer or cause it to do work."<sup>1</sup> Therefore, we broadly,

<sup>&</sup>lt;sup>1</sup> Microsoft Computer Dictionary, 108 (3<sup>rd</sup> ed. 1997).

but reasonably, construe the claim term "computing" as to use a computer or cause it to do work, which includes performing a numeric calculation. But we decline to limit the claim term only to "performing a numeric calculation."

# 4. "Instruct signals" (Claims 1-3, 6, 11, and 13)

The claim term "instruct signals" appears in a number of claim limitations, such as "receiving and detecting at said subscriber station, in an information transmission received from said one or more remote stations, one or more *instruct* signals" (claim 1, emphasis added), and "generating one or more instruct signals at said transmission station, said one or more *instruct signals* being effective to cause said subscriber station to compute second subscriber specific data" (claim 6, emphasis added.) However, that claim term does not appear in the specification of the '638 patent, and neither party offers a claim construction of that claim term.

As ordinarily understood, the word "signal" means "any electrical quantity, such as voltage, current, or frequency, that can be used to transmit information."<sup>2</sup> The word "instruct" generally means "to furnish with knowledge," "to furnish with orders or directions," or "to furnish with information."<sup>3</sup> Comaper Corp. v. Antec, Inc., 596 F.3d 1343, 1348 (Fed. Cir. 2010) (Because the specification does not provide an explicit definition of the claim term, in determining the ordinary and customary meaning of the claim term as understood by a person of ordinary skill in

 <sup>&</sup>lt;sup>2</sup> Microsoft Computer Dictionary, 435 (3<sup>rd</sup> ed. 1997).
 <sup>3</sup> Random House Webster's College Dictionary, 683 (2<sup>rd</sup> ed. 1999).

the art, it is appropriate to consult a general dictionary definition of the word for guidance.)

Based on the record presented, we broadly, but reasonably, construe the claim term an "instruct signal" as an electronic transmission of information, including knowledge or directions.

5. "One or more" and "at least one of" (Claims 1-3, 6, 11, 13, and 15)

The claim term "one or more" appears in many claim limitations, including the following: "one or more instruct signals" (claims 1 and 6, emphasis added); and "one or more of a software module and a data module" (claims 2 and 3, emphasis added).

The term "at least one" typically is construed to mean "one or more." *See Biagro W. Sales, Inc. v. Grow More, Inc.,* 423 F.3d 1296, 1304 (Fed. Cir. 2005). The '638 patent utilizes the term "at least one of" in the following claim limitations: "*at least one of* an image and a sound" (claims 1 and 6, emphasis added); "identifying *at least one of* said one or more of a software module and a data module in said one or more instruct signals" (claim 3, emphasis added); "initiating communications with *at least one of* said one or more remote stations in accordance with said one or more of a software module and a data module" (claim 3, emphasis added); and "incorporating into the modified one or more of a software module and a data module an identifier which enables said subscriber station to initiate communications with *at least one of* said one or more remote stations associated with said identifier" (claim 15, emphasis added).

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PMC does not offer an explicit claim construction as to those claim terms. Yet, PMC through its arguments regarding asserted prior art grounds of unpatentability, which we address *infra*, implies that those claim terms require more than one item. (*See e.g.*, Prel. Resp. 14 "Petitioner further fails to demonstrate that Sitrick discloses the limitations of dependent claim 2, which further provides that the 'instruct signals include *one or more of* a software module and a data module'... The 'game data' and the 'audiovisual works that define the presentation' in Sitrick are one and the same." Emphasis added.)

We decline to adopt such a construction that is contrary to the plain meaning of the claim term. Instead, we determine that each of the claim terms "one or more" and "at least one of" requires only a single item identified in the claim limitation, in order for the prior art to meet the claim limitation. See Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 782 (Fed. Cir. 1985); Brown v. 3 M, 265 F.3d 1349, 1351 (Fed. Cir. 2001) ("When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art.")

For instance, the claim limitation "one or more instruct signals" requires only a single instruct signal; the claim limitation "one or more of a software module and a data module" requires either a software module *or* a data module, but not both; and the claim limitation "*at least one of* an image and a sound" requires *either* an image *or* a sound, but not both.

In addition, for the claim limitation "initiating communications with *at least* one of said one or more remote stations in accordance with said one or more of a

software module and a data module" that uses both claim terms in combination, that limitation requires only one remote station, and requires either a software module or a data module, but not both.

6. "Data generated in accordance with said software module and data included in said data module" (Claim 2)

Claim 2 provides:

The method of claim 1, wherein said detected one or more instruct signals include *one or more of a software module and a data module*, said method further comprising the steps of:

receiving and storing said one or more of a software module and a data module; and subsequently

presenting a combined or sequential output of mass medium programming and one or more of *data generated in accordance with said software module and data included in said data module.* 

For this decision, the issue regarding the claim phrase "data generated in accordance with *said software module and data included in said data module*" is whether it requires both a software module and a data module. That claim phrase purportedly requires both "*said* software module" and "*said* data module." However, the claim language that provides the antecedent basis for the claim term "*said* software module and data included in said data module" merely requires a single item—"*one or* more of a software module and a data module."

Because the claim must be read as a whole, the disputed claim phrase must be read with the claim language that provides the antecedent basis for the claim term "*said* software module and data included in said data module." Accordingly,

for the purposes of this decision, we construe the disputed claim phrase as requiring either "said software module" or "said data module," but not both.

### B. Anticipatory Grounds

Zynga asserts that certain challenged claims are unpatentable under 35 U.S.C. § 102 as anticipated by each of the cited prior art references—namely, Bakula, Sitrick, and Higgins. (Pet. 7-54.) As support, Zynga provides claim charts and detailed explanations as to how each claim limitation is met by each reference, and directs our attention to a declaration of Dr. Charles J. Neuhauser ("Dr. Neuhauser"). (*Id.*, citing to Ex. 1011.)

In response, PMC urges the Board to deny Zynga's petition and decline to institute a trial. (Prel. Resp. 5.) To that end, PMC contends that each cited reference fails to describe the claimed subject matter. (Prel. Resp. 6-22; 26-30.)

We are not persuaded by PMC's arguments as they are based on overly narrow interpretations of the claim terms (*e.g.*, "computing"), which we decline to adopt (*see supra*). Moreover, PMC fails to consider the references from the perspective of a person of ordinary skill in the art. *In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995); *In re Baxter*, 952 F.2d 388, 390 (Fed. Cir. 1991); *In re LeGrice*, 301 F.2d 929, 936 (CCPA 1962) (A reference anticipates a claim if it discloses the claimed invention such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention.).

Upon review of PMC's contentions, Zynga's analysis, and supporting evidence, we determine that Zynga's assertions are persuasive. We, therefore,

conclude that Zynga has demonstrated that there is a reasonable likelihood that it would prevail with respect to the challenged claims on the grounds that: (1) claims 1-3, 6, 11, and 12 are anticipated by Bakula; (2) claims 1-3, 6, 11-13, and 15 are anticipated by Sitrick; and (3) claims 1-3, 6, 11, 12, and 13 are anticipated by Higgins. As part of our analysis, we will address each anticipatory ground of unpatentability in turn.

"Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention." *RCA Corp. v. Applied Digital Data Sys., Inc.,* 730 F.2d 1440, 1444 (Fed. Cir. 1984). It is not necessary that the reference teach what the subject patent teaches, but only that the claim read on something disclosed in the reference, *i.e.*, that all of the limitations in the claim be found in or fully met by the reference. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983).

Claims 1-3, 6, 11, and 12 – Anticipated by Bakula

Bakula discloses a system having a host computer, storage facilities, and a plurality of video display terminals for authoring and editing stories (*e.g.*, "electronic" newsrooms). (Ex. 1009, Abs. and 1:6-20.) Figure 1 of Bakula, reproduced below, depicts an overall system block diagram.

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As shown in Figure 1 of Bakula, a writer may use an editing terminal to create a story. (Ex. 1009, 1:19-22.) An editor, through his editing terminal, may view or edit a story from a writer or other data input sources. (Ex. 1009, 4:3-14.) Each editing terminal has a processor, bootstrap memory, and main random access memory. (Ex. 1009, 4:43-47.) When the processor executes a bootstrap program stored in the bootstrap memory during the power-up sequence of the terminal, a message is sent to the host computer requesting a download of the terminal control program. (Ex. 1009, 5:55-66.) The host computer will download program instructions to the terminal for storage in the main memory. (Ex. 1009, 5:10-16.) The control program instructions customize the terminal based on the user's preference (*e.g.*, operates as a sports editor terminal). (*Id.*)

#### Whether Bakula describes the "computing second data" limitation

In its preliminary response, PMC argues that Bakula does not describe "the computing of second subscriber data by processing the first subscriber specific data in accordance with one or more instruct signals." (Prel. Resp. 27, emphasis

omitted.) In particular, PMC asserts that Bakula does not describe "that the news story, as stored in the random access memory M, is processed to compute a modified version of the story," but rather Bakula "describes that changes to the story, such as those made during the editing phase, may be stored in other portions of memory." (*Id.*)

We are not persuaded by PMC's arguments. Instead, we agree with Zynga's analysis. According to Zynga, the "first user-specific data" may be a new story originated at the writer's terminal, and the "second data" is computed at the editor terminal by processing the original story *in accordance with the text editing and display features enabled via the terminal control program.* (Pet. 26, citing to Ex. 1001, 4:10-13.) Moreover, Bakula discloses the following (Ex. 1001, 5:14-40, emphasis added):

The host computer will then retrieve the requested story from the data base storage DBS and supply the story to the terminal. Under program control, the terminal will route the story for storage in the main memory M. At this point, the main memory M will store both program instructions for internal operation of the processor as well as the data representing the text to be displayed on the CRT.

The data characters stored in main memory are read and routed to the character generator where *the data characters are decoded to obtain the proper video dot pattern for display on the CRT screen*. The main memory is accessed under the control of a direct memory access control circuit DMA. This circuit operates in response to control signals from the character generator CG and fetches data from the memory with the data then being supplied to the character generator by way of a data bus DB. *The data received by the character generator is then employed to provide video patterns representative of data characters for display on the cathode ray tube CRT*.

Clearly, Bakula describes that both the program instructions and the data representing the text to be displayed are stored in the main memory of the terminal. Insofar as PMC's contention is premised on the assumption that the "computing" limitation requires a numeric calculation, such a contention is unavailing as we decline to adopt such an overly narrow construction of the claim term "computing." As discussed previously, in applying the broadest reasonable construction, we interpret the claim term "computing" as "to use a computer or cause it to do work."

Accordingly, we determine that Bakula's disclosure satisfies the "computing" limitation. On this record, we conclude that Zynga has demonstrated that Bakula describes the limitation "computing second data at said subscriber station by processing said first data in accordance with said one or more instruct signals" as recited in claim 1, and as similarly recited in claim 6.

#### Whether Bakula describes the "combined medium presentation" limitation

PMC contends that Bakula does not describe "a combined medium presentation including *at least one of an image and a sound received at the subscriber station from a remote transmitter station and a portion of the computed second data*" as recited in claim 1. (Prel. Resp. 28-29, emphasis by PMC.) PMC characterizes Zynga's position as asserting "that Bakula's news story and the edited version of the news story teach the 'first subscriber specific data' and the computed 'second subscriber data' of the claim, but then a third news story would teach at least one image or sound part of a combined medium presentation." (*Id.*) According to PMC, that position "is wholly inconsistent." (*Id.*) PMC maintains

that Zynga does not explain "how the one story is 'at least one of an image and a sound received . . . from a remote transmitter station' and the other story is 'a portion of the computed second subscriber data' in the other." (*Id.*)

At the outset, to the extent that PMC's allegation is based on a claim construction that the claimed combined medium presentation must be *both* an image *and* a sound, we are not persuaded. As articulated above, we interpret the claim limitation "at least one of an image and a sound" as requiring either an image or a sound, but not both.

Further, we are not persuaded by PMC's arguments, as PMC does not explain sufficiently as to why Zynga's position is inconsistent. In fact, Zynga elaborates that "the combined medium presentation in Bakula can include two news stories: (1) the edited version of the news story originated at the editor terminal (*i.e.*, the second data), and (2) a news story received at the editor terminal from a remote transmitter station (*e.g.*, a news story received from Associated Press or United Press International news sources.)" (Pet. 26-27, citing to Ex. 1009, 1:50-68.) Zynga further clarifies that "[t]he instruct signals and data of the terminal control program thus enable a dual screen mode, such that a writer can edit a first news story displayed on a first portion of the display screen while simultaneously viewing a second news story on a second portion of the display screen." (*Id.*) Therefore, on this record, we are persuaded that Zynga has demonstrated that Bakula describes the disputed limitation as recited in claim 1, and as recited similarly in claim 6.

#### Whether Bakula describes the "processing" limitation in claim 11

PMC further contends that Bakula does not describe "processing a first portion of said generally applicable information in order to generate or assemble at least some of said one or more instruct signals at said transmission station" as recited in claim 11. (Prel. Resp. 29.) In particular, PMC asserts that Bakula's news stories are not processed in order to generate at least some of the word processing terminal program. (*Id.*)

PMC's arguments are misplaced. As explained by Dr. Neuhauser, the first portion of the "generally applicable information" is disclosed by Bakula as *programming to be downloaded* from the host computer to an editing terminal. (Ex. 1011, ¶ 204). Dr. Neuhauser also clarifies that the "processing" of the first portion relates to processing by the host computer necessary to transfer the terminal program from the database system to the system multiplexer and finally to the editing terminal. (Ex. 1011, ¶ 204.) On this record, we credit Dr. Neuhauser's testimony, and thus determine that Zynga has demonstrated that Bakula describes the disputed limitation as recited in claim 11.

# Claims 1-3, 6, 11-13, and 15 – Anticipated by Sitrick

Sitrick describes an interactive distributed video game system that includes a network of a plurality of video game consoles. (Ex. 1008, Abs.) Figure 1B of Sitrick is reproduced below to illustrate the features of a video game console.



As shown in Figure 1B of Sitrick, a user video game console 1000 has a joy stick 100, a speaker/microphone, a keyboard 110, a communication switch 105, switches 120, a video image input means 200, and a video display unit VDU 140. (Ex. 1008, 3:3-39; 5:1-3; 11:16-20.) A plurality of consoles 1000 can be interconnected with a master controller and configured as a multiuser game system. (Ex. 1008, 3:20-26; 3:56-59; 4:29-31; 4:58-52; Figs. 2A-2D.) Figure 2C of Sitrick, reproduced below, illustrates an exemplary multiuser game system:



As depicted in Figure 2C of Sitrick, a plurality of video game consoles, VG1 through VGN, are interconnected with a master controller 3000, which provides functions such as tracking selected users movements and actions, and controlling the audiovisual imagery—namely, the game console displayed visuals that are generated based on the user inputs in accordance with a logical sequence. (Ex. 1008, 5:8-14, 36-44.)

#### Whether Sitrick describes the disputed limitations as recited in claims 1 and 6

With respect to independent claims 1 and 6, PMC in essence argues that Sitrick does not describe: (1) *computing second data* at the subscriber station by processing the *first subscriber specific data* in accordance with *an instruct signal* (Prel. Resp. 10-11); (2) processing the instruct signal to cause *a combined presentation* that includes (i) an *image* or a sound received from a *remote station*, and (ii) a portion of the second data (Prel. Resp. 11-12); and (3) *transferring* the portion of the second data to a remote station based on the subscriber input (Prel. Resp. 12-13).

Again, PMC's arguments are premised on overly narrow constructions of the claim terms. As discussed previously, under the broadest reasonable interpretation, we construe the claim term "computing" as "to use a computer or cause it to do work" and interpret the claim term "an instruct signal" as "an electronic transmission of information including knowledge or directions." In its petition, Zynga indicates that the "first subscriber specific data" includes an image, color, or shape used to represent a user. (Pet. 8 and 10, citing to Ex. 1011, ¶¶ 234-235; Ex. 1008, 1:45-49 "each user is identified by a distinguishable representation. For example, color, size or shape can be used to distinguish users. In one embodiment *a digitized image of each user's face* is used as the distinguishable representation." Emphasis added.) Further, Zynga notes that Sitrick discloses an information transmission of game data ("instruct signals") received from another game console ("a remote station") to the user game console ("a subscriber station"), and clarifies that the game data is processed at the user game console in order to synchronize the game data at the user game console with that of the other game consoles of the

network. (Pet. 8, citing Ex. 1008, 8:15-29.) Zynga further states that the "second data" includes data used to form the overall image that is displayed at the console. (Pet. 8, citing Ex. 1008, 5:24-44.)

Zynga also directs our attention to the following testimony of Dr. Neuhauser (Ex. 1011, ¶ 239-240, emphasis added):

During the play of a single identity game, each terminal *receives* signals from other terminals describing the state of play at the individual terminals. These signals together with the state of play and particularly the user's distinguishable representation are combined under control of the application layer 3050 in each console to produce an image that is displayed at that user's console. The application layer 3050 to the video manager layer 3060 is the "second data" because it is formed by processing the user specific distinguishable representation with "instruct signals" from other consoles to produce data to drive the video manager layer 3060 that is unique to the player's own console.

More importantly, Sitrick discloses that the console video display units VDU provide means for *producing game imagery representative of at least some of the user control signals and responsive to the logical sequencing means*. (Ex. 1008, 5:15-18; 6:10-15.) Figure 3 of Sitrick, reproduced below, illustrates the distribution of the logical sequencing means between the master controller and the video game consoles.



As shown in Figure 3 of Sitrick, the applications program layer (*3050 in the individual consoles*, and 3260 in the master controller 3200) *performs the function of* game logic definition, data input and output manipulation and translation, and *video output generation*. (Ex. 1008, 7:1-6.) The local video management layers 3060 of the consoles 3100 acts as a display composer *performing the local display composing functions* as well as in some situations performing global and special functions. (Ex. 1008, 7:9:19.) The output of the video management layer provides display output to the video display unit (3070, 3270), *providing the game audiovisual presentation*. Given Sitrick's disclosure, Zynga's analysis, and Dr. Neuhauser's testimony, which we credit on this record, we are persuaded that Zynga has demonstrated that Sitrick describes the "computing second data" step as recited in independent claims 1 and 6.

In addition, we are not persuaded by PMC's argument that Sitrick does not describe the processing of the instruct signal to cause a combined presentation.

(Prel. Resp. 11-12.) We also disagree with PMC's argument that Zynga applies the reference in a manner that contradicts the claim language. (*Id.*) Rather, we credit Dr. Neuhauser's testimony that provides the following (Ex. 1011, ¶¶ 242-243):

Sitrick discloses "*processing*" of the signals from peer consoles to develop visual displays for presentation at a player's console. These visual displays constitute a "*combined medium presentation*" because they are composed of information from a remote station and information from the subscriber station as discussed above with respect to the third claim element. The output device is the VDU ["Video Display Unit"] 3070, for example.

This display consists of (i) an "*image*" received by the subscriber from a remote station, namely, at least, the distinguishable representation of the player at that particular remote station. Other images received from remote stations may include signals that are processed to produce changes to the game visuals, score, and game play. The display also contains (ii) a portion of the "*second data*" in the form of the display composed of the subscriber's distinguishable representation displayed according to the subscriber's inputs and signals received from the remote stations.

Further, Sitrick describes that the console provides the means to input and digitize a visual image of the user, which represents that user in the audiovisual presentation for a multiuser video game. (Ex. 1008, 11:16-45.) The user preselected character functions can be incorporated into the overall video game audiovisual presentation in combination with *a predefined set of complimentary audiovisual imagery segments according to a predefined set of game rules*. (Ex. 1008, 11:45-51.) As such, we are persuaded that Zynga has demonstrated that Sitrick describes the processing of the instruct signals to cause "a combined medium presentation" as recited in independent claims 1 and 6.

PMC's contention that Sitrick does not describe the transferring of the second data is also unavailing. (Prel. Resp. 12-13.) As Zynga points out, Sitrick discloses that the master game monitor provides numerous functions, including processing individual consoles inputs into identifying data packets, *coordinating all individual game user actions into global equivalent action data*, mapping global equivalent action into global mapping space, *updating game action display according to one of a plurality of predetermined response sequences responsive to the data packets and mapping space*, and outputting display information to individual displays or to the one master display. (Pet. 12, citing to 9:67-10:12.) Therefore, we are persuaded that Zynga has demonstrated sufficiently that Sitrick describes the "transferring" method step as recited in independent claims 1 and 6.

#### Whether Sitrick describes the disputed limitations as recited in claims 2 and 3

With respect to claim 2, PMC asserts that Sitrick does not describe the limitations in claim 2 (*e.g.*, "receiving and storing said one or more of a software module and a data module"). (Prel. Resp. 14-15.) Upon consideration of PMC's arguments, we determine PMC's position is misplaced. Rather, we are persuaded by Zynga's analysis and supporting evidence. Zynga notes that the user game console ("a subscriber station") receives and stores game data ("a data module") and audiovisual works that define the presentation of information on the video display unit VDU ("a software module"). (Pet. 13, citing to Ex. 1008, 8:15-29; 5:24-44.)

PMC's argument that the "game data" and the "audiovisual works" are one and the same (Prel. Resp. 14) is inapposite. As discussed previously, the claim term "one or more" only requires one item identified after the claim term. It follows that the limitation "one or more of a software module and a data module" requires only *either* a software module *or* a data module, but not both. Even if Sitrick's game data and audiovisual works are the same, Sitrick's disclosure still would satisfy the dispute limitations under the proper interpretation of the claim term "one or more of." Therefore, we determine that Zynga has demonstrated sufficiently that Sitrick describes the disputed limitations in claim 2. With respect to claim 3, PMC's argument that Zynga fails to make a showing that a software data module in a transmission is identified as a receiver station, is similarly unpersuasive.

Whether Sitrick describes the disputed limitations as recited in claim 15

In regard to claim 15, PMC argues that the portion of Sitrick cited by Zynga does not reference any "identifier" that is incorporated into communications from the master controller. (Prel. Resp. 15-16.) We disagree.

As Zynga points out, Sitrick discloses the following:

As illustrated, the communication switch 105 allows for bidirectional voice communication via the speaker/microphone 130 to other selected user stations and consoles. The keyboard 110 may be utilized for providing user coordinate data, *communications identification data*, and other user input data for communications to the game system electronics.

(Ex. 1008, 3:10-16, emphasis added)

The communications manager can provide the functions of interfacing between individual games and the master controller, *providing* 

*bidirectional communications* of user control, *I/D*, and status signals, packing and unpacking data to and from transmission, etc.

(Ex. 1008, 10:28-33, emphasis added)

The communications management layer (3020, 3220) performs information format translation, packing and unpacking of data, error correction and checking, and other utility *functions necessary to support communications*.

(Ex. 1008, 6:52-61, emphasis added)

Moreover, it is Dr. Neuhauser's opinion that Sitrick discloses that the master controller 3200 incorporates an "identifier" into communications sent to consoles, and this identifier includes at least the identification necessary for consoles to communicate with the mater controller and other consoles. (Ex. 1011,  $\P$  307.) Given Sitrick's disclosure and Dr. Neuhauser's testimony, which we credit on this record, we determine that Zynga has demonstrated sufficiently that Sitrick describes the disputed limitations of claim 15.

### Claims 1-3, 6, 11, 12, and 13 – Anticipated by Higgins

Higgins describes a data communication system for distributing, processing, and displaying financial market data and news. (Ex. 1010, 1:9-12.) Higgins' invention is said to provide a system to display market information useful for brokers by utilizing interactive user control work stations and multi-window displays. (Ex. 1010, 1:13-25.) For instance, in response to the usage pattern of a work station, selected portions of the market information is maintained dynamically and accessible immediately at that work station. (Ex. 1010, 1:46-51.) Various derivative tasks (*e.g.*, security price limit alerts and customized, selective ticker displays) are user programmable and are actuated by the work station

database. (Ex. 1010, 1:51-54.) Figures 1A and 1B of Higgins, reproduced below, illustrate an overall view of the system.



As shown in Figures 1A and 1B of Higgins, the data communication system includes regional exchanges, a plurality of area computers 50, branch computers 90, and subscriber work stations 110<sub>i,j,k</sub>. Each of the subscriber work stations

 $110_{i,j,k}$  has a display 107, a central processor 103, memories ROM 190 and RAM 111, and a signal entry keyboard 112. (Ex. 1010, 2:6-26; 4:21-28.) To make use of the market and news information generated by ticker plant 35 and news wire sources 24 of the regional exchanges, the user at the work station may specify various kinds of information desired for viewing. (Ex. 1010, 4:21-28.) The information may be presented in a multi-window display (Figure 2), and depending upon the user's preference, the specific format of the multi-window display may vary. (Ex. 1010, 4:34-41.)

#### Whether Higgins describes the disputed limitations as recited in claims 1 and 6

With respect to independent claims 1 and 6, PMC essentially argues that
Higgins fails to describe: (1) *detecting an instruct signal* (Prel. Resp. 17);
(2) *computing* of second data in accordance with the instruct signal (Prel. Resp. 18); and (3) *outputting* of a *combined medium presentation* that contains
(i) an image or a sound and (ii) a portion of the second data (Prel. Resp. 19).

As noted by Zynga, the "instruct signals" include stock symbol, price, volume and related information. (Pet. 39, citing to Ex. 1010, 8:39-43.) Dr. Neuhauser testifies that the work station performs the step of "receiving and detecting instruct signals" when the work station receives and detects stock trade executions, quotations, and other ticker plant information because the reception and detection of the ticker plant information triggers specific actions within work station. (Ex. 1011, ¶ 73.) Indeed, Higgins describes that the operative program (test 303) *examines* each of the application stock lists (*e.g.*, the "least recently used" (LRU) list), and if the trade information is germane to an application for that

specific work station, the program *updates* the database associated with that security to reflect the last trade and quotations for that stock, and the applications (windows and the related window-driving storage) associated with that stock. (Ex. 1010, 8:16-63; Fig. 4.) As such, we are persuaded that Zynga has demonstrated that Higgins describes the "receiving and *detecting*" limitation of claim 1.

With respect to PMC's arguments that Zynga fails to show that Higgins' stock information filtering process teaches *computing* of a second subscriber data (Prel. Resp. 18), we do not agree with PMC's position. Again, PMC's argument is based on an erroneous construction of the claim term "computing." As articulated previously, we construe the claim term "computing" as "to use a computer or cause it to do work." Applying our claim construction, we determine that Higgins' stock information filtering process performs at the subscriber's work station including displaying stock symbols, prices, and other updated information satisfies the "computing" limitation.

With respect to PMC's contentions that Zynga does not explain how stock name and price can be "at least one of an image and a sound received . . . from a remote transmitter station" in one instance and "a portion of the computed second subscriber data" in the other (Prel. Resp. 19), we are not persuaded. Further, PMC's allegation that Higgins does not disclose that any data computed for display is forwarded subsequently to the area or branch computers in response to a user's stock price inquiry (Prel. Resp. 20) is unavailing.

In Zynga's view, the combined medium presentation includes the following types of stock information: (1) a non-user specific stock ticker, *e.g.*, the complete

New York Stock Exchange (NYSE) ticker, received from a remote transmitter station (*e.g.*, a remote ticker plant); and (2) the stock symbol, updated price information, and limit information for the securities of interest to the user (*i.e.*, the second data). (Pet. 40-41, citing to Ex. 1010, 4:34-5:36.) Zynga explains that a user at the subscriber workstation may enter a stock symbol which causes the stock symbol included in the combined medium presentation to be transferred to an area or branch computer. (Pet. 41.)

According to Dr. Neuhauser's testimony, the stock trade executions (*i.e.*, "instruct signals") received at a work station are "processed" to output a "combined medium presentation," which is the display presentation shown in Figure 2. (Ex. 1011, ¶ 77.) Figure 2 of Higgins illustrates an exemplary multi-window presentation display, and is reproduced as follows:

143 14 NYSE (7 ABC 50 RST 5	4 145 Ticker / D3 90 3/4 BD 52 3 9 1/8	0 5s/41/2
IX MNO NEWS	163 28 3/8 65 7 ·	CD 42 7/8 
14 m	149 ,155,157,158	MNO 25 5/8 * 25 7/8
MONITOR, TABC N IX N	90 5/8-90	7/8 5/8
	1	

FIG. 2

Referring to Figure 2 of Higgins, Dr. Neuhauser states that: (1) the news wire information 149 is received from the news wire source 24, which is a "remote

station;" and (2) the "second data" includes at least the information shown in the limit window 151, which includes a stock symbol, a trade price (25 5/8), a limit (25 7/8), and an indicator (the less than-symbol, "<"). (Ex. 1011, ¶ 78.) It is Dr. Neuhauser's opinion that Higgins discloses the disputed limitations when the user uses the keyboard 112 to request specific stock quotes and to define the particular multi-window display the user requires. (Ex. 1011, ¶ 80.) Dr. Neuhauser also states that in response to data presented in the limit window 151, a user may request a "full" quick quote in the quick-quote window 157 to obtain additional information about a stock that is not available at the workstation. (*Id.*)

On this record, we credit Dr. Neuhauser's testimony, and further observe that Higgins discloses the following (Ex. 1010, 6:46-67, emphasis added):

To illustrate specific operation of the dynamic storage reallocation algorithm, assume that a broker or other user at the work station 110<sub>i.i.k</sub> illustrated in FIG. 1B wishes a quotation on any desired security. He enters the corresponding symbol for the security as by his signal entry keyboard 112 (functional step 201 in FIG. 3). Test 205 then examines the LRU table to determine whether the newly entered stock symbol is already in the LRU list. If it is (YES output of test 205), test 206 examines the command message entered through keyboard 112 to determine whether the user wishes a full quote (e.g., including historical and derived (e.g., price-earnings ratio) information not locally available at the work station 110 or the more common so-called quick quote price and volume information which is locally available. If a full quote is desired, the work station 110 obtains the historical information from the historical information memory 95 in the branch *computer*  $90_{ik}$  via the communicating demultiplexer 105. If desired, historical information of varying levels of detail may be distributed between the branch and area RAMs 95 and 60.

Given Zynga's analysis, Dr. Neuhauser's testimony, and the relevant disclosures of Higgins, we are persuaded that Zynga has demonstrated that Higgins describes the disputed claim limitations as recited in claims 1 and 6.

#### Whether Higgins describes the disputed limitations recited in claim 2

PMC alleges that Zynga fails to demonstrate that Higgins teaches the "instruct signals include one or more of a software module and a data module" as recited in claim 2. (Prel. Resp. 20.) In particular, PMC argues that no generation takes place because, according to PMC, the stock information that is received at the work station is stored directly in RAM, and then displayed on the user's display window. (*Id.*)

We are not persuaded. In its petition, Zynga directs our attention to the testimony of Dr. Neuhauser, which provides the following (Pet. 47, Ex. 1011, ¶ 88, citing to Ex. 1010, 2:44-53; 4:47-5:1; 4:34-5:40, emphasis added):

Higgins discloses that after receiving a stock trade quotation (*i.e.*, a "data module"), the multi-window display shown in Figure 2 is presented to the user (*see, e.g.* Figure 4). The display presentation in Figure 2 is a "combined or sequential output of mass medium programming." *The display of Figure 2 also includes "data"* generated in accordance with "data included in said data module." For example, the display shown in Figure 2 shows stock symbols, prices, volumes, and limits exceeded, which are data. Furthermore, *certain displays, such as NYSE ticker 142 and News 149, clearly represent "mass medium programming" because they represent information that is distributed to many users.* 

On this record, we credit Dr. Neuhauser's testimony, and therefore determine that Zynga has demonstrated that Higgins describes the disputed claim limitations as recited in claim 2.

#### Whether Higgins describes the disputed limitation of claim 13

PMC further argues that Zynga fails to establish that Higgins describes incorporating or modifying of a software module. (Prel. Resp. 21.) We are not persuaded by PMC's argument. As reasoned by Zynga, the software module or data module is *modified* at the transmission station by *incorporating* data that serves as a basis for outputting the combined medium presentation in that the process of receiving signals from ticker plant 35, selecting among the signals, and formatting the results for transmission to the work station 110 is modifying the data module, where the data incorporated into the data module is the signal having the least amount of noise. (Pet. 52, citing to Higgins at 3:3-23.)

Dr. Neuhauser testifies that the data "incorporated" into the output sent to the work station would be the most correct signal received, or under other wellknown algorithms a corrected signal, and thus the step of "modifying" would be performed by the branch computer and receiver. (Ex. 1011, ¶ 127, citing to Ex. 1010, 3:3-23; 4:10-20.) According to Dr. Neuhauser, because Higgins discloses that even if the stock related to the full quick-quote is one that is stored currently in the work station it is still necessary to retrieve the complete data from the RAM storage of the branch computer. (Ex. 1011, ¶ 128, citing to Ex. 1010, 4:50-55; 6:61-7:2.) Dr. Neuhauser also explains that one of ordinary skill in the art would have recognized that the receiver does not pass all the information received

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from the ticker plant directly to work station, but rather passes only that information that might be displayed automatically, such as the price of the last trade. (*Id.*)

On this record, we credit Dr. Neuhauser's testimony, and are persuaded that Zynga has demonstrated that Higgins describes the disputed claim limitation as recited in claim 13.

# C. Claims 1-3, 6, 11-13, and 15 – Obvious over Higgins and Sitrick

Zynga asserts that claims 1-3, 6, 11-13, and 15 are unpatentable under 35 U.S.C. § 103(a) over Higgins and Sitrick. (Pet. 56-57.) Regarding that asserted ground of unpatentability, the parties mainly disagree over whether the combination of cited prior art references describes or renders obvious all of the claim limitations, and whether a person of ordinary skill in the art at the time of the invention of the '638 patent would have combined the teachings of Higgins and Sitrick to arrive at the claimed subject matter. (Pet. 56-57; Prel. Resp. 22-25.)

More specifically, Zynga submits that a person of ordinary skill in the art would have been motivated to supplement the networked computer hierarchy of Higgins "with Sitrick's teaching of a combined medium presentation including an image from a remote transmitter station, because this would allow the multiwindow display of Higgins to deliver a more rich viewing experience by including graphics." (Pet. 56.) On the other hand, PMC maintains that modifying the multiwindow display to include pictures would run counter to an underlying principle under which Higgins' system was designed to operate. (Prel. Resp. 23-24.)

We are not persuaded by PMC's arguments. As we discussed above, the combination of Higgins and Sitrick collectively discloses all of the claim limitations of the challenged claims. With respect to whether a person of ordinary skill in the art would have combined the prior art teachings, "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 550 U.S. at 416. In that regard, the Court has recognized that "when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result." *Id*.

Here, PMC fails to provide reasoned explanation or credible evidence that the mere substitution of video images or graphics for some of the stock market information in a multi-window display would have been beyond the level of an ordinary skilled artisan. *See Leapfrog Ent., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) ("[a]ccommodating a prior art mechanical device that accomplishes [a desired] goal to modern electronics would have been reasonably obvious to one of ordinary skill in designing children's learning devices"). More importantly, PMC fails to explain adequately how adding video images or graphics capabilities to a multi-window display would destroy Higgins' principle of operation, or run counter to an underlying principle of Higgins—namely providing current market and stock information to brokers.

For the foregoing reasons, we determine that Zynga has demonstrated that there is a reasonable likelihood that it would prevail with respect to claims 1-3, 6, 11-13, and 15 based on the grounds that these claims are obvious over Higgins and Sitrick.

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### D. Other Asserted Grounds

Zynga also asserts that claims 2, 3, 13, and 15 are unpatentable over the combination of Sitrick and Bakula, and over the combination of Higgins, Sitrick, and Bakula. (Pet. 55 and 58.) Those asserted grounds are denied as redundant in light of the determination that there is a reasonable likelihood that the challenged claims are unpatentable based on the grounds of unpatentability on which we institute an *inter partes* review. *See* 37 C.F.R. § 42.108(a).

# III. CONCLUSION

For the forgoing reasons, we determine that the information presented in the petition establishes that there is a reasonable likelihood that Zynga would prevail with respect to claims 1-3, 6, 11-13, and 15 of the '638 patent.

### IV. ORDER

Accordingly, it is

**ORDERED** that pursuant to 35 U.S.C. § 314, an *inter partes* review is hereby instituted as to claims 1-3, 6, 11-13, and 15 of the '638 patent for the following grounds:

- Claims 1-3, 6, 11, and 12 unpatentable under 35 U.S.C. § 102(b) as anticipated by Bakula;
- 2. Claims 1-3, 6, 11-13, and 15 unpatentable under 35 U.S.C. § 102(b) as anticipated by Sitrick;
- 3. Claims 1-3, 6, 11, 12, and 13 unpatentable under 35 U.S.C. § 102(e) as anticipated by Higgins; and

4. Claims 1-3, 6, 11-13, and 15 unpatentable under 35 U.S.C. § 103(a) over Higgins and Sitrick;

**FURTHER ORDERED** that no other grounds of unpatentability set forth in the petition are authorized for the *inter partes* review as to claims 1-3, 6, 11-13, and 15 of the '638 patent;

**FURTHER ORDERED** that pursuant to 35 U.S.C. § 314(d) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial is commencing on the entry date of this decision; and

**FURTHER ORDERED** that an initial conference call with the Board is scheduled for 1:00 PM Eastern Time on August 27, 2013; the parties are directed to the Office Trial Practice Guide<sup>4</sup> for guidance in preparing for the initial conference call, and should come prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

<sup>&</sup>lt;sup>4</sup> Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48765-66 (Aug. 14, 2012).

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