UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
WACO DIVISION

QUANTUM IMAGING LLC, Plaintiff, v. SONY GROUP CORPORATION; SONY CORPORATION OF AMERICA; SONY INTERACTIVE ENTERTAINMENT INC.; SONY INTERACTIVE ENTERTAINMENT LLC; AND BLUEPOINT GAMES, INC., Defendants.	CASE NO. 6:22-cv-573-ADA-DTG **JURY TRIAL DEMANDED**

PRELIMINARY INVALIDITY CONTENTIONS

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I. INTRODUCTION

Pursuant to the Court's Order Governing Proceedings and Scheduling Order (Dkt. 64), Defendants Sony Interactive Entertainment Inc. ("SIE Inc."), Sony Interactive Entertainment LLC ("SIE LLC"), and Bluepoint Games, Inc. ("BGI") (collectively, "Defendants"), provide these Preliminary Invalidity Contentions to Plaintiff Quantum Imaging LLC, ("Quantum" or "Plaintiff") for the following patents (collectively, "Asserted Patents") and claims (collectively, "Asserted Claims") identified in Quantum's Preliminary Infringement Contentions served on October 25, 2022 ("Infringement Contentions")[1]:

Asserted Patents[2]	Asserted Claims
U.S. Patent No. 8,458,028	Claims 1, 3-9
U.S. Patent No. 10,255,724	Claims 1-7, 9-14, 16, 18, 20-23
U.S. Patent No. 10,846,941[3]	Claims 1, 3, 5, 7-12, 23-26
U.S. Patent No. 10,991,165[4,5]	Claims 1-3, 5-8, 10-12, 18

Defendants also serve herewith its initial document production accompanying these disclosures pursuant to the Court's Order Governing Proceedings and Scheduling Order.

A. Claim Construction

The Court has not yet construed any of the terms in the Asserted Claims of the Asserted Patents. These Preliminary Invalidity Contentions are served in view of Defendants' current

[1] Plaintiff's preliminary infringement contentions contain numerous errors and omissions and at times are incomprehensible. Defendants' invalidity contentions are based on their best efforts to understand Plaintiff's contentions.
[2] The Asserted Patents are also referred to individually by the last three digits of the patent number throughout this document. For example, the '028 Patent refers to U.S. Pat. No. 8,458,028, the '724 Patent refers to U.S. Pat. No. 10,255,724, the '941 Patent refers to U.S. Pat. No. 10,846,941, and the '165 Patent refers to U.S. Pat. No. 10,991,165.
[3] Claims 1, 3, 5, 7-12 are asserted against BGI only.
[4] Claims 1-3, 5-8, 10-12 are asserted against BGI only.
[5] Defendants assert that the '165 Patent is unenforceable because it was terminally disclaimed against U.S. Pat. No. 7,373,377, which, on information and belief, was not commonly owned with the '165 Patent by Quantum when the Complaint was filed on June 3, 2022.

understanding of the Asserted Claims, without the benefit of claim construction proceedings in this action. Accordingly, Defendants do not take any position herein regarding the proper scope or construction of the Asserted Claims. To the extent that Defendants' contentions reflect, imply, or suggest a particular interpretation or construction of any claim element, Defendants do not adopt, advocate, or acquiesce to such an interpretation or construction. Defendants' contentions therefore should not be relied upon as a statement of Defendants' proposed claim constructions or as any admission regarding the proper scope of the claims. Nor do these Invalidity Contentions constitute any admission by Defendants that any accused products or services, including any current or past versions of those products or services, are covered by any Asserted Claims.

To the extent Defendants were able to understand them, these Preliminary Invalidity Contentions may take into account Quantum's apparent interpretations of the Asserted Claims as reflected in its Preliminary Infringement Contentions. Accordingly, any assertion herein that a particular limitation is disclosed by a prior art reference or references may be based in part on Quantum's apparent interpretation, but is not intended to be, and is not, an admission by Defendants that any such construction is supportable or correct, or that any claim terms of the Asserted Claims are not invalid under 35 U.S.C. § 112 for being indefinite, failing to satisfy the written description requirement, or failing to satisfy the enablement requirement. Moreover, nothing in these Invalidity Contentions should be construed as an admission or a waiver by Defendants of any particular construction of any claim term. Further, Defendants specifically deny that Quantum's apparent claim constructions are supportable or correct.

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B. Ongoing Discovery and Disclosures

These Preliminary Invalidity Contentions are based on Defendants' current knowledge and understanding of the Asserted Claims and review of prior art items as of the date of service, and are made without the benefit of discovery regarding the parties' claim construction contentions, any expert discovery, any third-party discovery, and any claim construction opinion or order by the Court. Accordingly, these Preliminary Invalidity Contentions are provided without prejudice to Defendants' right to revise, amend, correct, supplement, modify, or clarify the same. Defendants also reserve the right to complete its investigation and discovery of the facts, to produce subsequently discovered information, and to introduce such subsequently discovered information at the time of any hearing or trial in this action.

These Preliminary Invalidity Contentions are also based at least in part on Defendants' current understanding of the Asserted Claims in view of Quantum's Preliminary Infringement Contentions. In the event that Quantum amends its Preliminary Infringement Contentions to address any deficiency therein, or for any other reason, Defendants reserve the right to amend or supplement these Preliminary Invalidity Contentions.

Defendants further reserve the right to supplement and amend these Preliminary Invalidity Contentions and accompanying document production based on further investigation, analysis, and discovery, Defendants' consultation with experts and others, and contentions or court rulings on relevant issues such as claim construction and priority dates.

Because Defendants are continuing their search for and analysis of relevant prior art, Defendants reserve the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and/or relying upon additional prior art references, relevant disclosures, and bases for these Preliminary Invalidity Contentions. Additional prior art,

disclosures, and invalidity grounds, whether or not cited in this disclosure and whether known or not known to Defendants, may become relevant as investigation, analysis, and discovery continue, and following claim construction proceedings in this case.

These Preliminary Invalidity Contentions also incorporate by reference all bases for invalidity identified in subsequent pleadings and discovery responses in this case, and any bases of invalidity identified during the prosecution of the Asserted Patents, as well as all related patents and/or patent applications having the same or overlapping priority claims as the Asserted Patents. Defendants further incorporate by reference all admissions regarding the Asserted Patents including, but not limited to, admissions in the specification of the Asserted Patents and the prosecution of the Asserted Patents and related patents and/or patent applications that claim to the same priority document(s) as the Asserted Patents.

These Preliminary Invalidity Contentions further incorporate by reference anticipated discovery to be provided by Quantum: (1) any and all prior art identified in documents to be produced by Quantum to Defendants in this case; (2) any prior art of which a named inventor of the Asserted Patents is aware and/or on which he, she, and/or Quantum contends the alleged invention(s) of the Asserted Patents builds upon or improves; and (3) any and all admissions by Quantum and/or a named inventor regarding the Asserted Patents including, but not limited to, admissions in the specification of the Asserted Patents, the prosecution of the Asserted Patents and related patents and/or patent applications, or in other litigation where related patents have been asserted.

II. PRIORITY DATE OF THE ASSERTED PATENTS AND CLAIMS

In its Preliminary Infringement Contentions, Quantum states that each of the Asserted Patents "is entitled to a priority date at least as early as the earliest effective filing date reflected

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on the face of each Patent." Page 4. According to Quantum, the priority dates of the Asserted Patents are as follows:

Asserted Patent	Asserted Priority Date
the '028 Patent	Oct. 16, 2002
the '724 Patent	Oct. 16, 2002
the '941 Patent	Mar. 22, 2004
the '165 Patent	Mar. 22, 2004

Quantum has the burden to show entitlement to asserted priority dates that are earlier than the filing date of each patent, but Quantum has failed to meet that burden for at least the '724 Patent for following reasons.

A. <u>The '724 Patent is not entitled to Quantum's claimed priority date</u>

The '724 Patent was filed on Aug. 4, 2011 as U.S. Application Serial No. 13/137,299 and claimed priority to the '028 Patent on its face. According to Quantum, the '724 Patent is entitled to the same priority date of Oct. 16, 2002 as the '028 Patent. The '724 Patent is a divisional of U.S. Pat. No. 7,373,377 ("the '377 Patent") that was filed on March 22, 2004, which is a continuation-in-part application of the '028 Patent that was filed on Oct. 16, 2002. As a continuation-in-part application of the '028 Patent, the '377 Patent is not entitled to the priority date of the '028 Patent with respect to new matter introduced within the '377 Patent. Quantum has not identified any evidence that establishes the alleged priority date or any priority date earlier than March 22, 2004 for the '377 Patent.

In fact, the '028 Patent does not provide sufficient disclosure to support the asserted claims of the '724 Patent (which is a divisional of '377 Patent) in the manner as required under 35 U.S.C. § 112. For example, the '028 Patent fails to provide support for at least the following limitations of the asserted claim 1 of the '724 Patent:

- "A computer system having an interactive software application platform for

providing a virtual thematic environment";

- "at least one thematic/publishing logic module which contains virtual thematic environment rules configured for a gaming environment…";
- "at least one digital content library module which provides content management on the virtual thematic environment";
- "at least one quantum imaging environment (QIE) module which interprets content such that said content is manipulated and accessed by any device."

Therefore, the '724 Patent is not entitled to the same priority date as that of the '028 Patent.

III. PRIOR ART IDENTIFICATION AND INVALIDITY CLAIM CHARTS

The accompanying invalidity claim charts (identified in Sections IV-VII below) cite to particular teachings and disclosures of the prior art references as applied to elements of the Asserted Claims. However, persons having ordinary skill in the art may view an item of prior art generally in the context of other publications, literature, products, and understanding. Accordingly, the cited portions are only exemplary and are intended to put Quantum on notice of the basis for Defendants' contentions. Defendants have endeavored to identify relevant portions of the references, but the references may contain additional support for particular claim limitations. Defendants reserve the right to rely on uncited portions of the prior art references, other documents, and/or operational systems, as well as fact and expert testimony, to provide context or to aid in understanding the cited portions of the references and interpreting the teachings of the prior art and to establish bases for combinations of certain cited references that render the Asserted Claims obvious. Defendants also reserve the right to rely on any prior art system referenced, embodied, or described in any of the prior art references identified herein.

Moreover, Defendants reserve the right to rely on inventor admissions concerning the scope of the prior art relevant to the Asserted Patents found in, *inter alia*, the prosecution histories of the Asserted Patents or related patents and/or patent applications, any testimony or declarations of the named inventors concerning the Asserted Patents or related patents, and any papers or evidence to be submitted by Quantum in connection with this litigation, any other past, pending, or future litigation brought by Quantum or others involving the Asserted Patents or related patents, or *inter partes* review proceedings involving the Asserted Patents or related patents. Defendants may also establish what was known to a person having ordinary skill in the art through treatises, published industry standards, other publications, products, and/or testimony.

Where each of the invalidity claim charts (identified in Sections IV-VII below) cites to a particular figure in a reference, the citation should be understood to encompass the caption of the figure and other text relating to and/or describing the figure. Similarly, where one of the invalidity claim charts cites to particular text referring to a figure, the citation should be understood to include the figure and related figures as well.

The prior art references listed herein and in the accompanying invalidity claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently. The prior art references are also relevant for their showing of the state of the art and reasons and motivations for making improvements, additions, and combinations. The prior art references can also be combined to render the elements of the Asserted Claims obvious wherein such obviousness combinations are not to be construed to suggest that any reference is not itself anticipatory. Further, any such combinations of prior art references are intended to include and be in view of the knowledge of a person of ordinary skill in the art. Defendants reserve the right to use any

such combination(s) in this litigation. In particular, Defendants are currently unaware of the extent to which Quantum may contend that limitations of any particular claim(s) are not disclosed in the art that Defendants have identified as anticipatory. To the extent that Quantum does so, Defendants reserve the right to identify other evidence or references that anticipate or render obvious the particular claim(s).

Nothing in these Contentions should be treated as an admission that any of Defendants' accused instrumentalities meet any limitation of the Asserted Claims. Defendants deny infringement of any of the Asserted Claims. To the extent that any prior art references identified by Defendants contain a claim element that is the same as or similar to an element in an accused instrumentality, based on a claim construction inferred from Quantum's Infringement Contentions, inclusion of that reference in these Invalidity Contentions is not a waiver by Defendants of any claim construction or noninfringement position, nor is it an admission or suggestion by Defendants that any accused instrumentality satisfies the limitations of the Asserted Claims under a proper construction of those claims.

IV. PRELIMINARY INVALIDITY CONTENTIONS FOR THE '028 PATENT

A. Prior Art References[6]

1. Prior Art Patents and Publications

Defendants identify the following prior art patents and printed publications, which anticipate the asserted claims of the '028 Patent under 35 U.S.C. §§ 102(a), (b), (e), and/or (g), and/or render the asserted claims of the '028 Patent obvious under 35 U.S.C. § 103, either alone or in combination.

[6] To the extent one or more prior art patents, publications, or systems are identified in the claim charts attached hereto but are not included in the tables and lists below, those prior art patents, publications, or systems are also prior art to the '028 Patent.

Prior Art	Date of Issue/Publication	Effective Filing Date
US Pat. No. 7,168,051 ("Robinson")	Jan. 23, 2007	Oct. 10, 2000
JP Pat. Pub. No. 2001331813 ("Murakami")	Nov. 30, 2001	May 22, 2000
US Pat. No. 5,933,811 ("Angles")	Aug. 3, 1999	Aug. 20, 1996
US Pat. No. 6,616,533 ("Rashkovskiy")	Sep. 9, 2003	May 31, 2000
JP Pat. Pub. No. 2002157209 ("Kurioka")	May 31, 2002	Nov. 17, 2000

Discovery is not yet complete and Defendants continue to investigate these and other prior art products and systems and thus may uncover additional documentation and evidence regarding their operation and functionality. Defendants may also rely on physical samples, executable software, or source code as evidence of the relevant functionality of these prior art products and systems. Defendants will make available for inspection any additional documentation and evidence and any physical samples of products, systems, or software listed above, and/or any source code that it has in its possession or that becomes available in the future during discovery.

B. Lack of Novelty & Obviousness

The asserted claims of the '028 Patent are invalid because they lack novelty and/or are obvious in light of the prior art, as is demonstrated by the following charts (attached as exhibits), which identify where in the prior art each limitation of each asserted claim is found:[7]

[7] In the attached charts—for all asserted patents—Defendants have identified representative portions of the prior art for each limitation, rather than cite to each and every similar disclosure or additional support. As prior art references are considered as a whole and in the context of the understanding of one of ordinary skill in the art, Defendants may also rely on uncited portions of the prior art references to provide context and additional support, as well as expert testimony regarding the references. Similarly, in the interest of brevity, Defendants do not cite all text accompanying figures and figures accompanying text, but any citation to figures should be understood to encompass the caption and description of the figure and any text relating to the

Exhibit No.	Chart Description
A-1	Robinson
A-2	Murakami
A-3	Angles
A-4	Rashkovskiy
A-5	Kurioka

C. Lack of Enablement and Written Description

The asserted claims of the '028 Patent fail to satisfy the requirements of 35 U.S.C. § 112 and are thus invalid because the specification and original patent application fail to provide an enabling disclosure of and written description support for at least the following limitations:

- "automatically integrating business-related content from at least one of said web pages of said secondary electronic device into said locally executed game application during execution of said game application" (claim 1);
- "automatically re-directing said user to one of said web pages of said secondary electronic device from said primary electronic device, said re-direction being integrated into said game application and said re-direction occurring as part of the user executing said game application" (claim 1);
- "said branded business-related content is dynamically updated" (claim 4);
- "said player profile is disseminated to providers of business-related content used in said game application" (claim 6);
- "automatically integrating said content from said secondary electronic device into said at least one of said plurality of locally executed applications during execution of said at least one of said plurality of applications" (claim 7);
- "automatically re-directing said user to one of said customized web pages at said

figure, and any citation to text should be understood to encompass any figures relating to that text.

secondary electronic device, from said primary electronic device, said re-direction being integrated into said one of said plurality of applications and said re-direction occurring as part of the user executing said one of said plurality of applications" (claim 7).

Accordingly, the asserted claims of the '028 Patent fail to satisfy the requirements, under 35 U.S.C. § 112 and therefore, are invalid for at least lack of enablement and for failing to provide sufficient written description support.

D. <u>Indefiniteness</u>

The asserted claims of the '028 Patent fail to satisfy the requirements of 35 U.S.C. § 112 and are thus invalid because the precise scope of the asserted claims cannot be determined with reasonable certainty as a result of the recitation of at least the following claim terms and phrases:

- "automatically integrating" (claims 1, 7);
- "automatically re-directing" (claims 1, 7);
- "business-related content" (claim 1);
- "customized web page" (claim 7);

Accordingly, the asserted claims of the '028 Patent fail to satisfy the definiteness requirement, under 35 U.S.C. § 112 and therefore, are invalid for at least being indefinite.

E. <u>Ineligible Subject Matter</u>

The asserted claims of the '028 Patent fail to satisfy the requirements of 35 U.S.C. § 101 and are thus invalid because they claim an abstract idea without adding any inventive concept. The asserted claims are directed to a statutory category, e.g., a process, under 35 U.S.C. § 101. However, the asserted claims are directed to a judicial exception, e.g., abstract idea, organizing human activity and mental process, without the claims amounting to significantly more than the

abstract idea itself. For example, the asserted claims appear to relate to the concept of receiving a request from a user to initiate a locally executed game, initiating the game application, integrating business-related content from web pages into the game, and re-directing said user to the web pages, as applied over a computerized network. These steps are abstract ideas, the combination of which fails to constitute a patentable invention. See, e.g., *Electric Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) ("gathering and analyzing information of a specified content, then displaying the results" is an abstract idea). Moreover, these steps are nothing more than organizing human activity, e.g., integrating business-related content into said locally executed game application [and] re-directing said user to one of said web pages. Independent claims 1 and 7 do not convert the abstract idea and/or organizing human activity into a patent-eligible application because they merely recite conventional computer components that do not amount to significantly more than the abstract idea itself and/or fail to limit the abstract idea to a particular technological environment. See claims 1 and 7. Likewise, the dependent claims merely recite such limitations as defining or providing certain categories of content (e.g., claims 3, 4, 8, 9), or providing conventional means for executing a game or generating certain content (e.g., claims 5, 6). Therefore, claims 1 and 3-9 are invalid under 35 U.S.C. § 101.

V. PRELIMINARY INVALIDITY CONTENTIONS FOR THE '724 PATENT

A. Prior Art References[8]

1. Prior Art Patents and Publications

Defendants identify the following prior art patents and printed publications, which

[8] To the extent one or more prior art patents, publications, or systems are identified in the claim charts attached hereto but are not included in the tables and lists below, those prior art patents, publications, or systems are also prior art to the '724 Patent.

anticipate the '724 asserted claims under 35 U.S.C. §§ 102(a), (b), (e), and/or (g), and/or render the asserted claims of the '724 Patent obvious under 35 U.S.C. § 103, either alone or in combination.

Prior Art	Date of Issue/Publication	Effective Filing Date
US Pat. No. 7,168,051 ("Robinson")	Jan. 23, 2007	Oct. 10, 2000
JP Pat. Pub. No. 2001331813 ("Murakami")	Nov. 30, 2001	May 22, 2000
US Pat. No. 5,933,811 ("Angles")	Aug. 3, 1999	Aug. 20, 1996
US Pat. No. 6,616,533 ("Rashkovskiy")	Sep. 9, 2003	May 31, 2000
JP Pat. Pub. No. 2002157209 ("Kurioka")	May 31, 2002	Nov. 17, 2000

Discovery is not yet complete and Defendants continue to investigate these and other prior art products and systems and thus may uncover additional documentation and evidence regarding their operation and functionality. Defendants may also rely on physical samples, executable software, or source code as evidence of the relevant functionality of these prior art products and systems. Defendants will make available for inspection any additional documentation and evidence and any physical samples of products, systems, or software listed above, and/or any source code that it has in its possession or that becomes available in the future during discovery.

B. Lack of Novelty & Obviousness

The asserted claims of the '724 Patent are invalid because they lack novelty and/or are obvious in light of the prior art, as is demonstrated by the following charts (attached as exhibits) that identify where in the prior art each limitation of each asserted claim is found:

Exhibit No.	Chart Description
B-1	Robinson
B-2	Murakami
B-3	Angles

B-4	Rashkovskiy
B-5	Kurioka

C. Lack of Enablement and Written Description

The asserted claims of the '724 Patent fail to satisfy the requirements of 35 U.S.C. § 112 and are thus invalid because the specification and original patent application fail to provide an enabling disclosure of and written description support for at least the following limitations:

- "at least one thematic/publishing logic module which contains virtual thematic environment rules configured for a gaming environment" (claim 1);
- "upon a predetermined action within said virtual thematic environment, automatically exit the virtual thematic environment, and one of copy or grab data or objects from a website external to the virtual thematic environment, to be utilized in the virtual thematic environment" (claim 1);
- "wherein said data or said objects are automatically integrated into the virtual thematic environment during execution of the virtual thematic environment" (claim 1);
- "at least one quantum imaging environment (QIE) module which interprets content such that said content is manipulated and accessed by any device" (claim 1);
- "at least one content logic module directed to accounting, sponsor and users, transactions, and collecting content in real-time and injecting said content into the virtual thematic environment" (claim 3);
- "said communication module includes network and security features which provide integrity of users and secure interaction between the virtual thematic environment and sponsors" (claim 6);

- "said security features include authentication, anti-cheating mechanisms, and financial audit functions" (claim 7);
- "a thematic application/publication/game content component which provides a storage facility for all thematic content required in the virtual thematic environment" (claim 12);
- "a real-time thematic environment database which maintains a state of each user and the virtual thematic environment" (claim 20);
- "a timing mechanism which requires that a task performed on the worldwide web or internet must be performed within a certain period of time or on a competitive level with one or more opponents at a sponsored internet site" (claim 22);
- "a purchase mechanism which allows real-world credit or virtual credit to be used for payments of said product at said internet website of said product sponsor" (claim 23);

Accordingly, the asserted claims of the '724 Patent fail to satisfy the requirements, under 35 U.S.C. § 112. Therefore, the asserted claims of the '724 Patent are invalid for at least lack of enablement and for failing to provide written description support.

D. <u>Indefiniteness</u>

The asserted claims of the '724 Patent fail to satisfy the requirements of 35 U.S.C. § 112 and are thus invalid because the precise scope of the asserted claims cannot be determined with reasonable certainty as a result of the recitation of at least the following claim terms and phrases:

- "virtual thematic environment" (claim 1);
- "automatically exit the virtual thematic environment" (claim 1);
- "the at least one thematic/publishing logic module being configured to allow a

user to interact within said virtual thematic environment and upon a predetermined action within said virtual thematic environment, automatically exit the virtual thematic environment, and one of copy or grab data or objects from a website external to the virtual thematic environment" (claim 1);

- "automatically integrated" (claim 1);
- "any device" (claim 1);
- "transactions" (claim 3):
- "connection options" (claim 5);
- "network and security features which provide integrity of users and secure interaction between the virtual thematic environment and sponsors" (claim 6);
- "authentication, anti-cheating mechanisms, and financial audit functions" (claim 7);
- "storage facility" (claim 12);
- "thematic content" (claim 12);
- "required" (claim 12, 13);
- "external sources" (claim 14);
- "a competitive level" (claim 22);
- "real-world credit" (claim 23);
- "virtual credit" (claim 23).

Accordingly, the asserted claims of the '724 Patent fail to satisfy the definiteness requirement, under 35 U.S.C. § 112. Therefore, the asserted claims of the '724 Patent are invalid for at least being indefinite.

E. <u>Ineligible Subject Matter</u>

The asserted claims of the '724 Patent fail to satisfy the requirements of 35 U.S.C. § 101 and are thus invalid because at least the asserted claims 1-7, 9-14, 16, 18, 20-23 are not directed to patent-eligible subject matter.

These asserted claims are invalid under 35 U.S.C. § 101 because they only claim abstract ideas without the claims amounting to significantly more than the abstract idea itself. Moreover, the asserted claims are invalid under 35 U.S.C. § 101 because the claims fail to provide any improvement to the technology and the way a computer functions, and fail to provide any inventive concept. Many limitations in the asserted claims are common abstractions in computer systems and programming languages. The claims provide only generic functional language describing the well-known abstract idea of integrating objects from an external website into a game. In claim 1, for example, the computer system cited two standard components "a processor which executes a program having a plurality of modules", which, as described by the specification, is a generic computer component being used in all kinds of electronic devices (the '724 Patent at 13:3-34), and "a display" "unit for displaying a selection window and a keyboard for entering a selection" (*Id*. at 13:59-60). The claim, however, does not recite anything beyond generic computer components or what is unique about these generic computer components or how the enumerated tasks are to be accomplished. To the contrary, the specification discloses that the invention can be implemented in any number of ways on any number of conventional devices via hardware and/or software, see *Id*. at 13:3-18, 14:12-22. The various modules of the software being executed on the processor in claim 1, e.g., "thematic/publishing logic module", "digital content library module", and "quantum imaging environment (QIE) module" refer only to programming software for web content manipulation and presentation. Thus, the recitations are nothing but references to generic computer components or software modules. Moreover,

there is no improvement to the underlying technology of the computer system at all. For example, the recited claim does not improve the processing of data by the computer system, nor does it improve the display of the computer components. The rest of the asserted claims include additional software modules (e.g., claims 2, 3, 5-7, 9-14, 16, 18), data storage (e.g., claim 4), database (e.g., claim 20), interface (e.g., claim 21), timing mechanism (e.g., claim 22), or purchase mechanism (e.g., claim 23), all of which are merely generic computer components or software modules. As a result, the asserted claims of the '724 Patent are directed to abstract ideas with no inventive steps and are thus invalid under 35 U.S.C. § 101.

In fact, in its order granting motion for judgment on the pleadings in related case *Barbaro Techs., LLC v. Niantic, Inc.*, 475 F. Supp. 3d 1007, 1015 (N.D. Cal. 2020), the Court ruled that Claims 1, 3, and 6 of US Pat. No. 8,228,325 ("the '325 Patent"), which shares the same specification as the '724 Patent, are invalid as they are directed to abstract ideas and fail to recite inventive concepts. According to the Court, the "specification of the '325 Patent (and the '724 Patent) recites dozens of embodiments of the claimed result, accomplished by a variety of existing technologies, as discussed above, but does not purport to make any improvements to them." *Id*. at 1013. Like the '325 Patent, the asserted claims of the '724 Patent "are directed to an abstract idea because they 'do not enable computers to operate more quickly or efficiently, nor do they solve any technological problem.'" *Customedia Techs., LLC v. Dish Network Corp*., 951 F.3d 1359, 1365 (Fed. Cir. 2020). "Rather, computers are simply invoked as a tool for solving a problem that has predated them: integrating real-world information about a user into a virtual model." *Barbaro Techs., LLC v. Niantic, Inc*., 475 F. Supp. 3d at 1014. Therefore, just like the '325 Patent, the '724 Patent is directed to an abstract idea, fails to recite inventive concepts, and also does not purport to make any improvements to the existing technologies.

VI. PRELIMINARY INVALIDITY CONTENTIONS FOR THE '941 PATENT

A. Prior Art References[9]

1. Prior Art Patents and Publications

Defendants identify the following prior art patents and printed publications, which anticipate the asserted claims of the '941 Patent under 35 U.S.C. §§ 102(a), (b), (e), and/or (g), and/or render the asserted claims of the '941 Patent obvious under 35 U.S.C. § 103, either alone or in combination.

Prior Art	Date of Issue/Publication	Effective Filing Date
WO2002062436A2 ("Pisanich")	Aug. 15, 2002	June 2, 2001
US Pat. Pub. No. 2004/0002843 ("Robarts")	Jan. 1, 2004	May 13, 2002
US Pat. Pub. No. 2005/0043097 ("March")	Feb. 24, 2005	Aug. 21, 2003
US Pat. No. 6,308,565 ("French")	Oct. 30, 2001	Nov. 6, 1995
US Pat. No. 6,557,041 ("Mallart")	Apr. 29, 2003	Aug. 24, 1998
US Pat. Pub. No. 2002/0202877 ("Uhlir")	Sep. 15, 2005	Mar. 11, 2004
US Pat. Pub. No. 2004/0058732 ("Piccionelli")	Mar. 25, 2004	Jun. 14, 2002
US Pat. Pub. No. 2007/0099703 ("Terebilo")	May 3, 2007	Sept. 16, 2003
US Pat. No. 6,152,824 ("Rothschild")	Nov. 28, 2000	Mar. 6, 1997
JP Pat. Pub. No. 2002085856 ("Takigami")	Mar. 26, 2002	Sept. 20, 2000
US Pat. No. 6,767,287 ("McQuaid")	Jul. 27, 2004	Mar. 16, 2000.

2. Prior Art Systems and Products

Defendants also identify the following prior art products and services, which invalidate

[9] To the extent one or more prior art patents, publications, or systems are identified in the claim charts attached hereto but are not included in the tables and lists below, those prior art patents, publications, or systems are also prior art to the '941 Patent.

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the asserted claims of the '941 Patent under 35 U.S.C. §§ 102(a), (b), and/or (g), and/or render the asserted claims of the '941 Patent obvious under 35 U.S.C. § 103, either alone or in combination.

Prior Art	Date of USE, Sale, Offer for Sale, or Invention
EverQuest	Manuals published 2001
FIFA 2001	Manuals published 2001
Madden 2000	Manuals published 1999
Phantasy Star	Manual published 2000
Battlefield	Manuals published 2001

Discovery is not yet complete and Defendants continue to investigate these and other prior art products and systems and thus may uncover additional documentation and evidence regarding their operation and functionality. Defendants may also rely on physical samples, executable software, or source code as evidence of the relevant functionality of these prior art products and systems. Defendants will make available for inspection any additional documentation and evidence and any physical samples of products, systems, or software listed above, and/or any source code that it has in its possession or that becomes available in the future during discovery.

B. Lack of Novelty & Obviousness

The asserted claims of the '941 Patent are invalid because they lack novelty and/or are obvious in light of the prior art, as is demonstrated by the following charts (attached as exhibits) which identify where in the prior art each limitation of each asserted claim is found:

Exhibit No.	Chart Description
C-1	Pisanich
C-2	Robarts
C-3	March
C-4	French
C-5	Mallart
C-6	Uhlir
C-7	Piccionelli

C-8	Terebilo
C-9	Rothschild
C-10	Takigami
C-11	McQuaid
C-12	EverQuestb
C-13	FIFA 2001
C-14	Madden 2000
C-15	Phantasy Star
C-16	Battlefield

C. **Lack of Enablement and Written Description**

The asserted claims of the '941 Patent fail to satisfy the requirements of 35 U.S.C. § 112 and are thus invalid because the specification and original patent application fail to provide an enabling disclosure of and written description support for at least the following limitations:

- "at least one thematic/publishing logic module containing virtual thematic environment rules to coordinate actions to be taken to constitute and provide a virtual thematic environment on a visual component" (claim 1);
- "a secondary application within the primary application, the secondary application being different from the primary application, the secondary application being launched from the primary application" (claims 1, 23);
- "having first content utilized within a same application environment as second content provided by the primary application" (claims 1, 23);
- "a graphics user interface (GUI) module including software that renders graphical display elements onto the visual component and permits a user to interact with a graphical display element within the virtual thematic environment" (claim 1);
- "the secondary application configured to provide the second real-time information to the user within the virtual thematic environment via the second user interface" (claim 1);

- "providing content management of information within the virtual thematic environment coordinated by the thematic/publishing logic module, the digital content library module being a content management application" (claim 1);
- "said selection mechanism is a hot click button" (claim 5);
- "at least one of said first real-time information and said second real-time information are automatically downloaded based on actions of the user within the virtual thematic environment" (claim 10);
- "at least one thematic/publishing logic module containing virtual thematic environment rules to coordinate actions to be taken to constitute a virtual thematic environment" (claim 23);
- "the GUI module including software that renders graphical display elements onto a visual component and permits the user to interact with the graphical display elements within a virtual thematic environment" (claim 23);
- "providing content management of information within the virtual thematic environment, the digital content library module being a content management application" (claim 23).

Accordingly, the asserted claims of the '941 Patent fail to satisfy the requirements, under 35 U.S.C. § 112. Therefore, the asserted claims are invalid for at least lack of enablement and for failing to provide written description support.

D. <u>Indefiniteness</u>

The asserted claims of the '941 Patent fail to satisfy the requirements of 35 U.S.C. § 112 and are thus invalid because the precise scope of the asserted claims cannot be determined with reasonable certainty as a result of the recitation of at least the following claim terms and phrases:

- "virtual thematic environment" (claims 1, 23);
- "thematic/publishing logic module" (claims 1, 23);
- "virtual thematic environment rules" (claims 1, 23);
- "a secondary application within the primary application, the secondary application being different from the primary application" (claims 1, 23);
- "having first content utilized within a same application environment as second content provided by the primary application" (claims 1, 23);
- "graphics user interface (GUI) module" (claims 1, 23);
- "graphical display elements" (claims 1, 23);
- "quantum imaging environment (QIE) module" (claims 1, 23);
- "real-time information" (claims 1, 23);
- "provide the second real-time information to the user within the virtual thematic environment via the second user interface" (claims 1, 23);
- "content management of information within the virtual thematic environment" (claims 1, 23).

Accordingly, the asserted claims of the '941 Patent fail to satisfy the definiteness requirement, under 35 U.S.C. § 112 and therefore, are invalid for at least being indefinite.

E. <u>Ineligible Subject Matter</u>

The asserted claims of the '941 Patent fail to satisfy the requirements of 35 U.S.C. § 101 and are thus invalid because at least the asserted claims 1, 3, 5, 7-12, 23-26 are not directed to patent-eligible subject matter.

These asserted claims are invalid under 35 U.S.C. § 101 because they only claim abstract ideas, fail to provide any improvement to the way a computer functions, and fail to provide any

inventive concept. In particular, the asserted claims, for example, independent claims 1 and 23, are directed at nothing more than the well-known abstract idea of integrating or updating an electronic game with real-time/real-world information. This idea is not novel or specific to computers; indeed, it is a well-known concept longstanding business practices that are not patent-eligible. *See* e.g., *White Knuckle Gaming, LLC v. Electronic Arts Inc.*, Case No. 1:15-cv-150-JNP-PMW, 2016 WL 3129133 (D. Utah June 2, 2016). ("This is an abstract idea — updating software in sports video games — and it is performed on a conventional computer, server, and network . . . [T]he Patent claims do nothing more than recite the performance of a long-established business practice — re-writing software to produce an updated version — using a general purpose computer and the internet. . . . The fact that the Patent is limited to the specific field of use of sports video games, or that it is performed over the internet, makes no difference."). Moreover, limitations in the rest of the asserted claims provide little beyond generic functional language in support of this idea and are thus not patent eligible. For example, claims 3, 5, 7-11 appear to cover how real-time information or objects can be accessed or provided, claim 12 appears to enumerate various kinds of the secondary application, claim 24 appears to specify the type of virtual thematic environment, and claims 25-26 appears to characterize different types of real-time information. As such, the asserted claims 1, 3, 5, 7-12, 23-26 are invalid under 35 U.S.C. § 101.

Furthermore, the '941 Patent shares the same specification and is directed to the same subject matter as the invalidated claims of the '325 Patent discussed above with respect to the '724 Patent. As the Court has ruled in a related case *Barbaro Techs., LLC v. Niantic, Inc.*, 475 F. Supp. 3d 1007 (N.D. Cal. 2020), claims like the asserted ones of the '941 Patent that are directed to simply invoking computers to solve a problem that predated them – integrating real-

world or real-time information into a video game – are invalid as they are directed to abstract ideas and fail to recite incentive concepts. See *Id.* at 1014.

VII. PRELIMINARY INVALIDITY CONTENTIONS FOR THE '165 PATENT

A. Prior Art References[10]

1. Prior Art Patents and Publications

Defendants identify the following prior art patents and printed publications, which anticipate the asserted claims of the '165 Patent under 35 U.S.C. §§ 102(a), (b), (e), and/or (g), and/or render the '165 asserted claims obvious under 35 U.S.C. § 103, either alone or in combination.

Prior Art	Date of Issue/Publication	Effective Filing Date
WO2002062436A2 ("Pisanich")	Aug. 15, 2002	June 2, 2001
US Pat. Pub. No. 2004/0002843 ("Robarts")	Jan. 1, 2004	May 13, 2002
US Pat. Pub. No. 2005/0043097 ("March")	Feb. 24, 2005	Aug. 21, 2003.
US Pat. No. 6,308,565 ("French")	Oct. 30, 2001	Nov. 6, 1995
US Pat. No. 6,557,041 ("Mallart")	Apr. 29, 2003	Aug. 24, 1998
US Pat. Pub. No. 2002/0202877 ("Uhlir")	Sep. 15, 2005	Mar. 11, 2004
US Pat. Pub. No. 2004/0058732 ("Piccionelli")	Mar. 25, 2004	Jun. 14, 2002
US Pat. Pub. No. 2007/0099703 ("Terebilo")	May 3, 2007	Sept. 16, 2003
US Pat. No. 6,152,824 ("Rothschild")	Nov. 28, 2000	Mar. 6, 1997
JP Pat. Pub. No. 2002085856 ("Takigami")	Mar. 26, 2002	Sept. 20, 2000
US Pat. No. 6,767,287 ("McQuaid")	Jul. 27, 2004	Mar. 16, 2000.

[10] To the extent one or more prior art patents, publications, or systems are identified in the claim charts attached hereto but are not included in the tables and lists below, those prior art patents, publications, or systems are also prior art to the '165 Patent.

2. Prior Art Systems and Products

Defendants also identify the following prior art products and services, which invalidate the asserted claims of the '165 Patent under 35 U.S.C. §§ 102(a), (b), and/or (g), and/or render the '165 asserted claims obvious under 35 U.S.C. § 103, either alone or in combination.

Prior Art	Date of USE, Sale, Offer for Sale, or Invention
EverQuest	Manuals published 2001
FIFA 2001	Manuals published 2001
Madden 2000	Manuals published 1999
Phantasy Star	Manual published 2000
Battlefield	Manuals published 2001

Discovery is not yet complete and Defendants continue to investigate these and other prior art products and systems and thus may uncover additional documentation and evidence regarding their operation and functionality. Defendants may also rely on physical samples, executable software, or source code as evidence of the relevant functionality of these prior art products and systems. Defendants will make available for inspection any additional documentation and evidence and any physical samples of products, systems, or software listed above, and/or any source code that it has in its possession or that becomes available in the future during discovery.

B. Lack of Novelty & Obviousness

The asserted claims of the '165 Patent are invalid because they lack novelty and/or are obvious in light of the prior art, as is demonstrated by the following charts (attached as exhibits) which identify where in the prior art each limitation of each asserted claim is found.

Exhibit No.	Chart Description
D-1	Pisanich
D-2	Robarts
D-3	March
D-4	French
D-5	Mallart

D-6	Uhlir
D-7	Piccionelli
D-8	Terebilo
D-9	Rothschild
D-10	Takigami
D-11	McQuaid
D-12	EverQuestb
D-13	FIFA 2001
D-14	Madden 2000
D-15	Phantasy Star
D-16	Battlefield

C. Lack of Enablement and Written Description

The asserted claims of the '165 Patent fail to satisfy the requirements of 35 U.S.C. § 112 and are thus invalid because the specification and original patent application fail to provide an enabling disclosure of and written description support for at least the following limitations:

- "providing a graphics user interface (GUI) module for use in the client system" (claims 1, 18);
- "providing a quantum imaging environment (QIE) module in one of the client or the server system" (claims 1, 18);
- "providing a thematic/publishing logic module in one of the client or the server system" (claims 1, 18);
- "providing access to the first real-time information within the virtual thematic environment via the first user interface" (claims 1, 18);
- "providing at least one secondary application within the primary application at the client system" (claims 1, 18);
- "enabling a user to access the at least one secondary application through the first user interface" (claims 1, 18);
- "enabling the user to control the at least one secondary application through a

second user interface" (claims 1, 18);

- "said selection mechanism is a hot click button" (claim 5);
- "said first real-time information and said second real-time information are displayed within the virtual thematic environment" (claim 6);
- "the user is provided with objects within the virtual thematic environment which operate in real-time with real-time information" (claim 11).

Accordingly, the asserted claims of the '165 Patent fail to satisfy the requirements, under 35 U.S.C. § 112. Therefore, the asserted claims of the '165 Patent are invalid for at least lack of enablement and for failing to provide written description support.

D. <u>Indefiniteness</u>

The asserted claims of the '165 Patent fail to satisfy the requirements of 35 U.S.C. § 112 and are thus invalid because the precise scope of the asserted claims cannot be determined with reasonable certainty as a result of the recitation of at least the following claim terms and phrases:

- "virtual thematic environment" (claims 1, 18);
- "graphics user interface (GUI) module" (claims 1, 18);
- "quantum imaging environment (QIE) module" (claims 1, 18);
- "thematic/publishing logic module" (claims 1, 18);
- "at least one secondary application within the primary application at the client system" (claims 1, 18);
- "real-time information" (claims 1, 18);
- "enabling a user to access the at least one secondary application through the first user interface (claims 1, 18);
- "enabling the user to control the at least one secondary application through a

second user interface" (claims 1, 18);

- "objects within the virtual thematic environment which operate in real-time with real-time information" (claim 11).

Accordingly, the asserted claims of the '165 Patent fail to satisfy the definiteness requirement, under 35 U.S.C. § 112 and therefore, are invalid for at least being indefinite.

E. <u>Ineligible Subject Matter</u>

The asserted claims of the '165 Patent fail to satisfy the requirements of 35 U.S.C. § 101 and are thus invalid because at least the asserted claims 1-3, 5-8, 10-12, and 18 are not directed to patent-eligible subject matter.

These asserted claims are invalid under 35 U.S.C. § 101 because they only claim abstract ideas, fail to provide any improvement to the way a computer functions, and fail to provide any inventive concept. In particular, the asserted claims, for example, independent claims 1 and 18, are directed at nothing more than the well-known abstract idea of providing and enabling access to real-time/real-world information within an electronic game. This idea is not novel or specific to computers; indeed, it is a well-known concept longstanding business practices that are not patent-eligible. *See e.g., White Knuckle Gaming, LLC v. Electronic Arts Inc.*, Case No. 1:15-cv-150-JNP-PMW, 2016 WL 3129133 (D. Utah June 2, 2016). ("This is an abstract idea — updating software in sports video games — and it is performed on a conventional computer, server, and network . . . [T]he Patent claims do nothing more than recite the performance of a long-established business practice — re-writing software to produce an updated version — using a general purpose computer and the internet. . . . The fact that the Patent is limited to the specific field of use of sports video games, or that it is performed over the internet, makes no difference."). Moreover, limitations in the rest of the asserted claims provide little beyond

generic functional language in support of this idea and are thus not patent eligible. For example, claim 2 characterizes different types of real-time information. Claims 3, 5-8, 10-11 appear to cover how real-time information or objects are provided, downloaded, and/or accessed, and claim 12 appears to enumerate various kinds of the secondary application. As such, the asserted claims 1-3, 5-8, 10-12, and 18 are invalid under 35 U.S.C. § 101.

Furthermore, like the ’724 and the ‘941 Patents, the ‘165 Patent also shares the same specification and is directed to the same subject matter as the invalidated claims of the ’325 patent discussed above. As the Court has ruled in a related case *Barbaro Techs., LLC v. Niantic, Inc.*, 475 F. Supp. 3d 1007 (N.D. Cal. 2020), claims like the asserted ones of the ‘165 Patent that are directed to simply invoking computers to solve a problem that predated them – integrating real-world or real-time information into a video game – are invalid as they are directed to abstract ideas and fail to recite incentive concepts. See *Id*. at 1014.

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Respectfully Submitted,

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