

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

**IMAGINEAR, INC. and IMAGINE AR,
INC.**

Plaintiffs,

v.

NIANTIC, INC.,

Defendant.

CASE NO. 24-CV-01252-JDW

DEFENDANT NIANTIC, INC.'S PRELIMINARY INVALIDITY CONTENTIONS

Pursuant to the schedule laid out in the parties' Joint Rule 26(f) Planning Meeting statement (Dkt. 41), as well as Delaware's model Scheduling Order, Defendant Niantic, Inc. ("Niantic" or "Defendant") hereby serves these Preliminary Invalidity Contentions and accompanying document production. Defendant reserves the right to serve updated Invalidity Contentions at the appropriate time according to the schedule adopted in this case.

I. INTRODUCTION

On August 1, 2025, Plaintiffs ImagineAR, Inc. and ImagineAR, Inc. ("Plaintiffs") served their Preliminary Infringement Contentions, in which it asserted the following patent claims.

Patent	Claims
U.S. Patent No. 10,946,284	1-27
U.S. Patent No. 11,484,797	1-24, 26-28
U.S. Patent No. 11,666,827	1-24, 26-28
U.S. Patent No. 12,070,691	1-24, 26-28
U.S. Patent No. 8,579,710	1-5, 7-13, 15-16, 18-24
U.S. Patent No. 8,668,592	1-8, 10-13, 16-25
U.S. Patent No. 8,777,746	1-3, 5-8, 13-19, 25-26

Defendant's Preliminary Infringement Contentions are directed to these Asserted Claims.

Patent	Earliest Priority Date Listed	Priority Document
U.S. Patent No. 10,946,284	Nov. 19, 2012	U.S. Prov. Appl. No. 61/796,715
U.S. Patent No. 11,484,797	Nov. 19, 2012	U.S. Prov. Appl. No. 61/796,715
U.S. Patent No. 11,666,827	Nov. 19, 2012	U.S. Prov. Appl. No. 61/796,715
U.S. Patent No. 12,070,691	Nov. 19, 2012	U.S. Prov. Appl. No. 61/796,715
U.S. Patent No. 8,579,710	Jan. 20, 2011	U.S. Prov. Appl. No. 61/461,480
U.S. Patent No. 8,668,592	Dec. 17, 2010	U.S. Prov. Appl. No. 61/461,480
U.S. Patent No. 8,777,746	Sept. 23, 2011	U.S. Prov. Appl. No. 61/626,201

Because each Asserted Patent traces its priority to an application filed before March 16, 2013, pre-AIA law governs. To the extent pre-AIA law does not govern, nothing would change that the references and system art identified qualify as prior art.

Defendant reserves the right to challenge whether the Asserted Patents are entitled to trace their priority to the provisional applications listed above. In particular, and as explained below (*infra*, § III), each of the Asserted Patents fails to enable and/or provide appropriate written description support for the alleged inventions, as required by 35 U.S.C. (s) 112(a). For at least this reason, the Asserted Patents are not entitled to claim priority to the provisional applications listed above. *See* 35 U.S.C. §100(i)(1)(A) (“if subparagraph (B) does not apply, the actual filing date of the patent or the application for the patent containing a claim to the invention.”). Regardless, the prior art identified herein predates the earliest priority date of the Asserted Patents, and therefore, invalidates the Asserted Patents, regardless of which priority date the Asserted Patents receive.

Defendant has undertaken reasonable efforts to prepare these Preliminary Invalidity Contentions based on its current knowledge and understanding of the Asserted Patent and the prior art, along with its understanding of Plaintiffs’ infringement allegations and apparent interpretation of the Asserted Claims based on those allegations, as set forth in Plaintiffs’ Complaint, First Amended Complaint, and Preliminary Infringement Contentions. Nothing in these Preliminary Invalidity Contentions should be construed as an admission regarding the scope of any claim or the proper construction of any claim term. Niantic does not waive the right to contest any claim constructions or to take positions during claim construction proceedings that may be inconsistent with these Preliminary Invalidity Contentions.

In certain instances, Defendant has applied the Asserted Claims to the prior art in view of Plaintiffs’ allegations and positions for purposes of these Preliminary Invalidity Contentions only. Defendant’s disclosure of these contentions should not be construed as an admission that any Asserted Claim is infringed by any of Defendant’s products, that any particular feature or aspect of any accused product practices any limitation of the Asserted Claims, or that any of Plaintiffs’

apparent claim interpretations are reasonable, supportable, or proper. Defendant does not waive any objections to Plaintiffs' Preliminary Infringement Contentions, nor does Defendant waive any challenges to Plaintiffs' interpretation or application of the Asserted Claims in those contentions. Indeed, Plaintiffs' Preliminary Infringement Contentions are deficient and fail to describe the accused functionality and Plaintiffs' interpretation of the claim language in a manner that would allow Defendant to fully respond.

Further, Defendant does not waive any right to amend or supplement these Preliminary Invalidity Contentions, or to take positions in its Final Invalidity Contentions that may be inconsistent with or beyond the scope of these Preliminary Invalidity Contentions, based on the discovery of new information in this case. Such new information may include, but is not limited to: (1) amendments to Plaintiffs' Preliminary Infringement Contentions; (2) admissions of Plaintiffs regarding the prior art, the scope of the Asserted Claims, the meaning of claim terms, and the alleged priority, conception, and reduction to practice dates for any of the Asserted Claims, including statements by Plaintiffs' fact and expert witnesses, statements in documents produced by Plaintiffs in this case, and statements in papers filed and evidence submitted by Plaintiffs in this or any other case involving the Asserted Patent; (3) admissions or statements made by Plaintiffs in IPR2025-01273, IPR2025-01274, IPR2025-01275, and IPR2025-01276, which respectively challenge the validity of the '284, '797, '827, and '691 patents; (4) additional prior art, including prior art obtained through discovery from Plaintiffs or a third party, or through further investigation by Defendant; and (5) any order issued by the Court concerning the scope of Plaintiffs' infringement allegations or claim construction.

II. INVALIDITY UNDER 35 U.S.C. §§ 102 & 103

The prior art references in the Preliminary Invalidity Claim Charts attached hereto as Appendices A1–A12, B1–B12, C1–C12, D1–D12, E1–E13, F1–F10, and G1–G10 (“Preliminary

Invalidity Claim Charts”) disclose, either expressly or inherently, each element of each claim of the Asserted Patent or render obvious, either alone or in combination with other prior art references, each claim of the Asserted Patents.

In the Preliminary Invalidity Claim Charts, Defendant has attempted to identify the most relevant portions of the cited references. However, the references may contain additional support for certain claim limitations. As such, Defendant may rely on uncited portions of references, other documents, and expert testimony to provide context for or to aid in understanding the disclosures of the references. These disclosures may also be combined with the knowledge of a POSITA to demonstrate the claims are obvious. Where Defendant cites to a particular figure in a reference, the citation should be understood to encompass the caption and any corresponding description of the figure. Conversely, where Defendant cites to particular text referring to a figure, the citation should be understood to include the figure as well. Moreover, Defendant has applied Plaintiffs’ apparent (or implied) interpretation of the claims; in doing so, no inference should be drawn that Defendant agrees with Plaintiff’s apparent claim construction or infringement contentions.

Moreover, Defendant understands at least four IPR petitions have been filed that challenge, respectively, the ’284, ’797, ’827, and ’691 patents. *Niantic, Inc. v. ImagineAR Inc. et al.*, IPR2025-01273, IPR2025-01274, IPR2025-01275, IPR2025-01276 (Jul. 14, 2025). Defendant incorporates by reference the arguments contained in those IPR petitions, supporting declarations thereto, and all subsequent filings, evidence, or administrative decisions in those IPR proceedings into these Preliminary Invalidity Contentions.

A. Identification of Relevant Prior Art

Based on its investigation to date, Defendant identifies the following items of prior art that anticipate or render obvious the Asserted Claims, or otherwise inform the relevant knowledge of a person having ordinary skill in the relevant art (“POSITA”).

Prior art patents and publications included in these Preliminary Invalidity Contentions may be related (such as a divisional, continuation, continuation-in-part, parent, or child) to earlier- or later-filed patents or publications, may have counterparts filed in other jurisdictions, or may incorporate (or be incorporated by) other patents or publications by reference. The listed patents and publications are intended to be representative of these other patents or publications to the extent they exist.

In addition to the prior art patents and publications identified below, Defendant reserves the right to rely on any reference listed on the face of the Asserted Patents, and hereby incorporates the “References Cited” section of the Asserted Patents herein.

1. Prior Art for the '284, '797, '827, and '691 patents

Given that the '284, '797, '827, and '691 patents recite claims with substantial overlap in subject matter, have the same specification, and claim entitlement to the same provisional documents, the following prior art is relevant to each patent.

a. Prior Art Patents and Applications

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
U.S. 2012/0244945	Brian Kolo, Aaron Winters	March 22, 2011	September 27, 2012
U.S. 2011/0028220 A1	Paul Reiche, III	July 28, 2009	February 3, 2011
U.S. 8,292,743	Nathan Arthur Etter, Jay Monahan, Matthew Adam Ocko, Brian Reynolds	June 30, 2011	October 23, 2012
U.S. 2011/0214071 A1	Michael Zyda, Bjarni Arnason, Balki Ranganathan, Marc Spraragen	Filed September 27, 2010, with priority to provisional application No. 61/308,705, filed on February 26, 2010.	September 1, 2011
U.S. 8,663,014 B2	Minglei Xu, Puneet Chhabra, Heidi Kay Carson, Tanya Yin Wa	Filed January 17, 2012, with priority to provisional application	Issued March 4, 2014; previously published

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
	Buell, Christopher Michael Kirmse	No. 61/438,118, filed on January 31, 2011.	August 2, 2012 (U.S. 2012/0196682 A1)
U.S. 9,555,334 B2	Christophe Bernard, Jason B. Kenagy, Mazen Chmaytelli	December 13, 2006	Issued January 31, 2017; previously published June 19, 2008 (U.S. 2008/0146338 A1)
U.S. Pat. Appl. No. 2008/0161113A1	Andrew S. Hanson, David A. Jones	Dec. 13, 2007	July 3, 2007
U.S. 8,342,929 B2	Rick A. Briggs, Denise Weston	July 2, 2010	Oct. 28, 2010
U.S. Pat. Appl. No. 2008/0102956A1	Kevin Burman, Dean P. Alderucci	Oct. 26, 2006	May 1, 2008
U.S. 2012/0094767 A1	Samuel Matthew Presgraves	Filed October 12, 2011, with priority to provisional application No. 61/392,194, filed on October 12, 2010.	April 19, 2012
U.S. 2012/0129590 A1	Brian Morrisroe, David Wang, Keith Lee	Filed June 21, 2011, with priority to provisional application No. 61/398,157, filed on June 21, 2010.	May 24, 2012
U.S. 8,550,909 B2	Elad Gerson, Eyal Ofek, Limor Lahiani, Brian Beckman, Ido Omer	June 10, 2011	Issued October 8, 2013; previously published December 13, 2012 (U.S. 2012/0315992 A1)
U.S. 9,170,114 B2	Kurt Brooks Uhler, Michael v. Shuman, Christopher Dougherty	December 2, 2011	Issued October 27, 2015; previously published March 22, 2012 (U.S. 2012/0071247 A1)
U.S. 8,555,346 B2	Brian Ronald Bokor, Peter Frederick Hagggar, Daniel Edward House, II William Bruce Nicol, Andrew Bryan Smith	August 19, 2008	Issued October 8, 2013; previously published February 25, 2010 (U.S. 2010/0050237)
U.S. 9,077,771 B2	Ezekiel Kruglick	March 29, 2012	Issued July 7, 2015; previously published October 3, 2013 (U.S. 2013/0260846 A1)
U.S. 2006/0281553 A1	William Hawkins, Rick Marazzani	May 19, 2005	December 14, 2006
U.S. 8,473,194 B2	Jeremy A. Irish, Elias C. Alvord	Filed December 31, 2008, with priority to	Issued on June 25, 2013; previously published

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
		provisional application Nos. 61/010,021, 61/010,036, and 61/010,023, filed on January 3, 2008	July 9, 2009 (U.S. 2009/0177486 A1)
U.S. 8,814,689 B2	Jonathan Ackley, Jonathan Blossom, Charles Ryan Jordan	Filed August 2, 2007, with priority to provisional application Nos. 60/837,151, 60/837,149, 60/837,150, 60/837,111, filed on August 11, 2006	Issued on August 26, 2014; previously published February 14, 2008 (U.S. 2008/0039205 A1)
U.S. 9,968,099 B1	John V. Hanke, Mark A. Aubin, David Kornmann, Marius Milner, Keith P. Golden, Lior Stern	November 1, 2012	March 3, 2015
Provisional Application 61/677,836 for U.S. 9,539,498 B1	John V. Hanke, Mark A. Aubin, James Dinkelacker, Phillip Craig Keslin, Charles Spirakis	Provisional Filed: July 31, 2012	--
KR1020090000664 A	Kim Ha Gyun	March 16, 2007	January 8, 2009
U.S. 8,425,291 B2	Scott J. Counts	January 11, 2012	Issued April 23, 2013; previously published May 10, 2012 (U.S. 2012/0115615 A1)
U.S. 8,727,887 B2	Amitt Mahajan, Matthew Adam Ocko, Brian Reynolds	September 26, 2011	Issued May 20, 2014; previously published January 3, 2012 (U.S. 2013/0005475 A1)
U.S. 2013/0072308 A1	Justin Peck, Andy Pickett, Scott Davis, Dave MacDonald, Donn Felker, Jessy Houle, Jeff Diercks	Filed September 15, 2012, with priority to provisional application No. 61/535,186, filed on September 15, 2011	March 21, 2013
U.S. 2013/0196773 A1	Camron Lockeby, Michael Cuff, Gordon John Hines	Filed April 27, 2012, with priority to provisional application No. 61/591,511, filed on January 27, 2012	August 1, 2013
CN101380517A	王治国	October 21, 2008	March 11, 2009
TW201039161A	Ye Yuan	April 17, 2009	November 1, 2010

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
U.S. 7,073,129 B1	James O. Robarts, Dan Newell, Kenneth H. Abbott	Filed April 12, 2001, with priority to provisional application No. 60/196,625, filed Apr. 12, 2000, and provisional application No. 60/240,694, filed Oct. 16, 2000	July 4, 2006
U.S. 9,440,146 B1	Justin Rouse, Kevin Holme, Daniel Hurd, Jason Tomlinson, Grant Yang, Shawn Lohstroh, Jessica Oyhenart, David Chow	August 23, 2011	September 13, 2016
U.S. 2004/0248653 A1	Mark Barros, James Hymel, Minh Pham	June 5, 2003	December 9, 2004
U.S. 2012/0052953 A1	Srinivas Annambhotla, Anders Larsson	June 8, 2011	March 1, 2012
U.S. 2013/0244776 A1	Bryan C. Everly, James C. Felli	Filed September 13, 2012, with priority to provisional application No. 61/534,295, filed on September 13, 2011	September 19, 2013

b. Publications and Non-Patent Literature

Title	Author(s)	Publication/Issue Date
“FRAP: A Framework for Pervasive Games”	Jan-Peter Tutzschke, Olaf Zukunft	July 15-17, 2009
“‘PanOULU Conqueror’ – A Pervasive Location-Based Game for the PanOULU Network”	Juha Tiensyrjä	April 27, 2010
“Playing with Portals: Rethinking Urban Play with Ingress.”	Kyle Moore	January 2017
“Playful Places: Uncovering Hidden Heritage with Ingress.”	Erin Stark	January 2015
“Playful Urban Places: A Historical Approach to Mobile Games”	Adriana de Souza e Silva, Larissa Hjorth	October 2009
“Location-Based Gaming: Play in Public Space”	Dale Leorke	2019

Title	Author(s)	Publication/Issue Date
“‘Savannah’: Designing a Location-Based Game Simulating Lion Behaviour”	Keri Benford	2004
“Life on the Edge: Supporting Collaboration in Location-Based Experiences”	Steve Benford, Duncan Rowland, Martin Flintham, Adam Drozd, Richard Hull, Josephine Reid, Jo Morrison, Keri Facer	April 2-7, 2005
“Six in the City: Introducing Real Tournament – A Mobile IPv6 Based Context-Aware Multiplayer Game”	Keith Mitchell, Duncan McCaffery, George Metaxas, Joe Finney, Stefan Schmid, Andrew Scott	May 22-23, 2003
“Touch-Space: Mixed Reality Game Space Based on Ubiquitous, Tangible, and Social Computing”	Adrian David Cheok, Xubo Yang, Zhou Zhi Ying, Mark Billinghurst, Hirokazu Kato	2002
All the World’s A Botfighter Stage: Notes on Location-Based Multi-User Gaming	Olli Sotamaa	2002
“Context-Aware Interaction And Navigation In Mobile Games”	Silke Jahn, Aizhen Liu, Mihail Dimitrov, Michail Mazo, Friedrich Jurgen, Krauss Matthias	2006
“Insectopia - Exploring Pervasive Games through Technology already Pervasively Available”	Johan Peitz, Hannamari Saarenpaa, Staffan Bjork	June 13-15, 2007
“A Case Study in Pervasive Game Design: The Songs of North”	Perti Lankoski, Satu Helio, Jani Nummela, Jussi Lahti, Frans Mayra, Laura Ermi	October 23-27, 2004
“Transhumance: A Platform on a Mobile Ad hoc NETwork Challenging Collaborative Gaming”	Isabelle Demeure, Annie Gentes, Julien Stuyck, Aude Guyot-Mbodji, Ludovic Martin	2008
“Pirates! Using the Physical World as a Game Board”	Staffan Bjork, Jennica Falk, Rebecca Hansson, Peter Ljungstrand	2001
“Adaptive Narration in Multiplayer Ubiquitous Games”	Stephane Natkin, Chen Yan	April-June 2009
“Towards Location-based Games”	Daniela Nicklas, Christoph Pfisterer, Bernhard Mitschang	November 22-23, 2001

Title	Author(s)	Publication/Issue Date
“Mobio Threat: A Mobile Game Based on the Integration of Wireless Technologies”	Wilian Segatto, Eduardo Herzer, Cristiano L. Mazzotti, Joao R. Bittencourt, Jorge Barbosa	October 2008
“Alien Revolt (2005-2007): A Case Study of the First Location-Based Mobile Game in Brazil”	Adriana de Souza Silva	Spring 2008
“Dungeons & Dragons, Player’s Handbook – Deluxe Edition”	Wizards of the Coast, 4th Edition	October 2008
“Dungeons & Dragons, Player’s Handbook”	Wizards of the Coast, 4th Edition	June 2008
“Dungeons & Dragons, Rules Compendium”	Wizards of the Coast, 4th Edition	September 2010
“Dungeons & Dragons, Monster Manual Deluxe Edition”	Wizards of the Coast, 4th Edition	June 2008
“Dungeons & Dragons, Player’s Handbook 2”	Wizards of the Coast, 4th Edition	March 2009
“Rolemaster Arms Law & Claw Law”	Iron Crown Enterprises Inc., 2nd Edition	September 1989
“Rolemaster Character Law”	Iron Crown Enterprises Inc., 2nd Edition	August 1999
“Rolemaster Standard Rules”	Iron Crown Enterprises Inc., 1st Edition	1995
“Spell Law”	Iron Crown Enterprises Inc., 2nd Edition	1989
“Character Law & Campaign Law”	Iron Crown Enterprises Inc., 2nd Edition	1989
“Rolemaster Fantasy Role Playing”	Iron Crown Enterprises Inc., 2nd Edition	1999
“Geo-Location Technologies and Other Means of Placing Borders on the ‘Borderless’ Internet”	Dan Jerker B. Svantenson	2004

Title	Author(s)	Publication/Issue Date
“Internet Gambling Company PartyGaming PLC Enters Non-Prosecution Agreement with U.S. and will Forfeit \$105 Million”	United States Attorney for the Southern District of New York	April 7, 2009
“Shadow Cities Walkthrough”	Jim Squires	May 30, 2011
“Google Launches Ingress, a Worldwide Mobile Alternate Reality Game”	Liz Games	November 15, 2012
“Geolocation and Federalism on the Internet: Cutting Internet Gambling’s Gordian Knot”	Kevin F. King	2010

c. Prior Art Systems

System Title	Release Date (at least as early as)	Implemented By
Ingress	November 15, 2012	Niantic Labs (as a wholly-owned subsidiary of Google)
BotFighters	2001	It’s Alive Mobile Games AB
ARQuake	2006	Wearable Computer Lab
Shadow Cities	November 10, 2010	Grey Area
Turf Wars	December 7, 2009	MeanFreePath LLC
Kingpen	March 2010	Foursquare
Own This World	2009	Big Nerds in Disguise
MinuteWar	2001	GPSgames.org
Nightclub City DJ Rivals	March 2011	Booyah
MyTown 2.0	2010	Booyah
Life is Crime	August 2011	Red Robot Labs
Mob Empire	2011	CrowdMob
panOULU Conqueror	August 2009	panOULU Network
MagiQuest	June 15, 2005	Creative Kingdoms (and, later, Great Wolf Resorts)
Parallel Kingdoms	October 2008	PerBlueInc
2008 PGA Tour	September 2007	EA Tiburon; Exient Entertainment (NDS); and EA Sports

2. Prior Art for the ’710 patent

a. Prior Art Patents and Applications

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
U.S. 2008/0274811 A1	Howard Ganz, Karl Joseph Borst	Filed August 14, 2007, with priority to U.S. Provisional Application No. 60/915,499, filed May 2, 2007	November 6, 2008
U.S. 2010/0138455 A1	Neal J. Alewine, II Rick A. Hamilton, Robert A. Hood, James W. Seaman	December 2, 2008	June 3, 2010
U.S. 2009/ 0216546 A1	Yunwu Huang, Jalal Uddin Mahmud, Roger Alan Pollak, John J. Ponzo	February 21, 2008	August 27, 2009
U.S. 2011/0078088 A1	Christopher J. Dawson, II Rick A. Hamilton, Neil A. Katz, James W. Seaman	September 29, 2009	March 31, 2011
WO 2001/084347 A1	Arthur Wing-Hong Lai	Filed August 16, 2000, with priority to May 1, 2000 (09/562,610)	November 8, 2001
U.S. 2008/0147424 A1	Michael J. Rowan, Christopher T.M. Bailey, Kefeng Chen, Neal Lewis Creighton	February 27, 2007	June 19, 2008
U.S. 7,515,873 B2	Michael Wayne Brown, Michael A. Paolini, Newton James Smith, Jr., Cornell G. Wright, Jr.	December 4, 2003	Issued April 7, 2009; previously published June 9, 2005 (U.S. 2005/0125222 A1)
U.S. 7,970,713 B1	Vladimir Gorelik, Andrew Ian Atherton, Nina Barrameda Zumel	May 10, 2000	June 28, 2011
WO2001084347 A1	Arthur Wing-Hong Lai	Filed August 16, 2000	November 8, 2001
U.S. 2006/0259429 A1	Joshua Hug	December 30, 2005	November 16, 2006
U.S. 2009/0276324 A1	Leigh M. Rothschild	May 5, 2008	November 5, 2009
U.S. 2004/0107129 A1	Manfred Langen	January 15, 2003	June 3, 2004
U.S. 2009/0012875 A1	Valerio Zanini, Jonathan Dugan	Filed July 7, 2008, with priority to provisional application No. 60/929,604, filed July 5, 2007	January 8, 2009

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
U.S. Pat No. 7,739,153	Eric C. Anderson, Patricia Scardino	Filed: May 18, 2007	Issued June 15, 2010

b. Publications and Non-Patent Literature

Title	Author(s)	Publication/Issue Date
“Pricing models and Motivations for MMO play”	Mijo Nojima	2007
“Rating Tools on Second Life - SlateIt and Slicr”	Slateit.org and Slicr.net via Archive.org	Archived from October 27, 2008; copyright 2007
“Second Life - The Official Guide”	Michael Rymaszewski, Wagner James Au, Mark Wallace, Catherine Winters, Cory Ondrejka, Benjamin Batstone-Cunningham, with forward by Philip Rosedale	2007
“Game Design as Marketing: How Game Mechanics Create Demand for Virtual Goods”	Juho Hamari, Vili Lehdonvirta	2010
“Virtual Item Sales as a Revenue Model: Identifying Attributes That Drive Purchase Decisions”	Vili Lehdonvirta	March 10, 2009
“Tradable Reputation and Online Economic Efficiency: A Field Experiment in Second Life”	Hong Xu, Jianqing Chen, Andrew B. Whinston	2009
“Pricing, Fills, and Customer Ratings”	Ying Xie	September 2010

c. Prior Art Systems

System Title	Release Date (at least as early as)	Implemented By
World of Warcraft – Auction House	July 7, 2004	Blizzard Entertainment
RuneScape (and Grand Exchange)	November 26, 2007	Jagex
Pokemon Black/White	September 18, 2010	Game Freak, The Pokémon Company, Nintendo
Eve	May 6, 2003	CCP Games
Second Life	June 23, 2003	Linden Lab
My Town 2.0	January 2010	Booyah

3. Prior Art for the '592 patent

a. Prior Art Patents and Applications

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
U.S. 7,887,421 B2	Hajime Tabata	September 17, 2007	Issued February 15, 2011; previously published March 27, 2008 (U.S. 2008/0076578 A1)
U.S. 2005/0009608 A1	James Robarts, Cesar Alvarez	Filed May 13, 2004, with claims priority to provisional application No. 60/470,394, filed May 13, 2003	January 13, 2005
U.S. 9,555,334 B2	Christophe Bernard, Jason B. Kenagy, Mazen Chmaytelli	December 13, 2006	Issued January 31, 2017; previously published June 19, 2008 (U.S. 2008/0146338 A1)
U.S. 2004/0219961 A1	Thomas Ellenby, Peter Ellenby, John Ellenby, Jeffrey Jay, Joseph Page	April 8, 2003	November 4, 2004
U.S. 8,675,017 B2	Gregory Gordon Rose, Miriam Wiggers De Vries, Michael Paddon, Philip Michael Hawkes	June 26, 2007	Issued March 18, 2014; previously published January 1, 2009 (U.S. 2009/0005140 A1)
U.S. 2008/0161113A1	Andrew S. Hanson, David A. Jones	Dec. 13, 2007	July 3, 2007
U.S. 8,342,929 B2	Rick A. Briggs, Denise Weston	July 2, 2010	Oct. 28, 2010
U.S. 2008/0102956A1	Kevin Burman, Dean P. Alderucci	Oct. 26, 2006	May 1, 2008
U.S. 8,498,814 B2	Jeremy Irish, Elias Alvord	February 6, 2004	Issued July 30, 2013; previously published December 2, 2004 (U.S. 2004/0243308 A1)
U.S. 2011/0028220 A1	Paul Reiche, III	July 28, 2009	February 3, 2011
U.S. 2006/0281553 A1	William Hawkins, Rick Marazzani	May 19, 2005	December 14, 2006
U.S. 2007/0021166 A1	Jouka Mattila	July 21, 2005	January 25, 2007
U.S. 2009/0227374 A1	Thomas M. Tirpak, Haris Ramic	March 5, 2008	September 10, 2009

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
U.S. 2010/0287011 A1	Artem Muchkaev	November 13, 2007	November 11, 2010
U.S. 8,458,028 B2	Frances Barbaro Altieri	October 16, 2002	Issued June 4, 2013; previously published April 22, 2004 (U.S. 2004/0078263 A1)
U.S. 2005/0043097 A1	Scott March, David Jones	Filed August 23, 2004, with priority to provisional application No. 60/496,752, filed August 21, 2003	February 24, 2005
U.S. 2009/0106672 A1	David Per Burstrom	Filed October 25, 2007, with priority to provisional application No. 60/980,814, filed October 18, 2007	April 23, 2009
U.S. 2010/0227688 A1	Robert Ernest Lee, Jon Edward Van Caneghem, Bryan Joseph Farina, Erin E. Turner, Peter Chi-Hao Huang	March 6, 2009	September 9, 2010
U.S. 2010/0331089 A1	Seth M. Priebatsch, Adam Finkelstein, Valeri Karpov	Filed February 26, 2010, with priority to provisional application No. 61/156,322, filed February 27, 2009	December 30, 2010
U.S. 6,320,495 B1	Peter Sporgis	March 24, 2000	November 20, 2001
Application No. 11/833,141 for U.S. 8,668,585	Jonathan Ackley, Jonathan Blossom, Charles Ryan Jordan	August 2, 2007	--
Provisional Application No. 61/315,390 for U.S. 8,332,544	Chaun J. Ralls, Andrew Cheeseman, Michael Young, Paul King, Peter Marx	March 18, 2010	--
Provisional Application No. 61/392,194 for U.S. 2012/0094767 A1	Samuel Matthew Presgraves	October 12, 2010	--
U.S. 7,946,919 B2	Gregory A. Piccionelli	Filed May 15, 2007, with priority to provisional application No. 60/389,700, filed June 14, 2002	Issued May 24, 2011; previously published September 27, 2007 (U.S. 2007/0225077 A1)

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
U.S. 8,123,599 B2	Scott J. Counts	February 13, 2006	Issued February 28, 2012; previously published August 16, 2007 (U.S. 2007/0191100 A1)
U.S. 2004/0164897 A1	Simon Treadwell, Alastair Jenkins	Filed February 18, 2004, with priority to provisional application No. 60/448,865, filed February 24, 2003	August 26, 2004
U.S. 2004/0248653 A1	Mark Barros, James Hymel, Minh Pham	June 5, 2003	December 9, 2004
Provisional Application No. 61/297,908 for U.S. 2011/0183754 A1	Mansour Ali Saleh Alghamdi	January 25, 2010	--
U.S. 2008/0319656 A1	Jeremy A. Irish	Filed June 19, 2008, with priority to provisional application No. 60/936,560, filed June 19, 2007	December 25, 2008
U.S. 2010/0030804 A1	Derick G. Behrends, Zachary A. Garbow, Travis R. Hebig, Daniel M. Nelson, Jesse D. Smith	July 31, 2008	February 4, 2010
U.S. 8,608,570	Amitt Mahajan, Matthew Adam Ocko, Brian Reynolds	June 30, 2011	Dec. 17, 2013

b. Publications and Non-Patent Literature

Title	Author(s)	Publication/Issue Date
“FRAP: A Framework for Pervasive Games”	Jan-Peter Tutzschke, Olaf Zukunft	July 15-17, 2009
“‘PanOULU Conqueror’ – A Pervasive Location-Based Game for the PanOULU Network”	Juha Tiensyrjä	April 27, 2010
“Playful Urban Places: A Historical Approach to Mobile Games”	Adriana de Souza e Silva, Larissa Hjorth	October 2009
“Location-Based Gaming: Play in Public Space”	Dale Leorke	2019

Title	Author(s)	Publication/Issue Date
“‘Savannah’: Designing a Location-Based Game Simulating Lion Behaviour”	Keri Benford	2004
“Life on the Edge: Supporting Collaboration in Location-Based Experiences”	Steve Benford, Duncan Rowland, Martin Flintham, Adam Drozd, Richard Hull, Josephine Reid, Jo Morrison, Keri Facer	April 2-7, 2005
“Six in the City: Introducing Real Tournament – A Mobile IPv6 Based Context-Aware Multiplayer Game”	Keith Mitchell, Duncan McCaffery, George Metaxas, Joe Finney, Stefan Schmid, Andrew Scott	May 22-23, 2003
“Touch-Space: Mixed Reality Game Space Based on Ubiquitous, Tangible, and Social Computing”	Adrian David Cheok, Xubo Yang, Zhou Zhi Ying, Mark Billinghurst, Hirokazu Kato	2002
All the World’s A Botfighter Stage: Notes on Location-Based Multi-User Gaming	Olli Sotamaa	2002
“Context-Aware Interaction And Navigation In Mobile Games”	Silke Jahn, Aizhen Liu, Mihail Dimitrov, Michail Mazo, Friedrich Jurgen, Krauss Matthias	2006
“Insectopia - Exploring Pervasive Games through Technology already Pervasively Available”	Johan Peitz, Hannamari Saarenpaa, Staffan Bjork	June 13-15, 2007
“A Case Study in Pervasive Game Design: The Songs of North”	Perti Lankoski, Satu Helio, Jani Nummela, Jussi Lahti, Frans Mayra, Laura Ermi	October 23-27, 2004
“Transhumance: A Platform on a Mobile Ad hoc NETwork Challenging Collaborative Gaming”	Isabelle Demeure, Annie Gentes, Julien Stuyck, Aude Guyot-Mbodji, Ludovic Martin	2008
“Pirates! Using the Physical World as a Game Board”	Staffan Bjork, Jennica Falk, Rebecca Hansson, Peter Ljungstrand	2001
“Adaptive Narration in Multiplayer Ubiquitous Games”	Stephane Natkin, Chen Yan	April-June 2009
“Towards Location-based Games”	Daniela Nicklas, Christoph Pfisterer, Bernhard Mitschang	November 22-23, 2001

Title	Author(s)	Publication/Issue Date
“Mobio Threat: A Mobile Game Based on the Integration of Wireless Technologies”	Wilian Segatto, Eduardo Herzer, Cristiano L. Mazzotti, Joao R. Bittencourt, Jorge Barbosa	October 2008
“Alien Revolt (2005-2007): A Case Study of the First Location-Based Mobile Game in Brazil”	Adriana de Souza Silva	Spring 2008
“Dungeons & Dragons, Player’s Handbook – Deluxe Edition”	Wizards of the Coast, 4th Edition	October 2008
“Dungeons & Dragons, Player’s Handbook”	Wizards of the Coast, 4th Edition	June 2008
“Dungeons & Dragons, Rules Compendium”	Wizards of the Coast, 4th Edition	September 2010
“Dungeons & Dragons, Monster Manual Deluxe Edition”	Wizards of the Coast, 4th Edition	June 2008
“Dungeons & Dragons, Player’s Handbook 2”	Wizards of the Coast, 4th Edition	March 2009
“Rolemaster Arms Law & Claw Law”	Iron Crown Enterprises Inc., 2nd Edition	September 1989
“Rolemaster Character Law”	Iron Crown Enterprises Inc., 2nd Edition	August 1999
“Rolemaster Standard Rules”	Iron Crown Enterprises Inc., 1st Edition	1995
“Spell Law”	Iron Crown Enterprises Inc., 2nd Edition	1989
“Character Law & Campaign Law”	Iron Crown Enterprises Inc., 2nd Edition	1989
“Rolemaster Fantasy Role Playing”	Iron Crown Enterprises Inc., 2nd Edition	1999
“Geo-Location Technologies and Other Means of Placing Borders on the ‘Borderless’ Internet”	Dan Jerker B. Svantenson	2004

Title	Author(s)	Publication/Issue Date
“Internet Gambling Company PartyGaming PLC Enters Non-Prosecution Agreement with U.S. and will Forfeit \$105 Million”	United States Attorney for the Southern District of New York	April 7, 2009
“Shadow Cities Walkthrough”	Jim Squires	May 30, 2011
“Geolocation and Federalism on the Internet: Cutting Internet Gambling’s Gordian Knot”	Kevin F. King	2010

c. Prior Art Systems

System Title	Release Date (at least as early as)	Implemented By
BotFighters	2001	It’s Alive Mobile Games AB
ARQuake	2006	Wearable Computer Lab
Shadow Cities	November 10, 2010	Grey Area
MagiQuest	June 15, 2005	Creative Kingdoms (and, later, Great Wolf Resorts)
Turf Wars	December 7, 2009	MeanFreePath LLC
Kingpen	March 2010	Foursquare
Own This World	2009	Big Nerds in Disguise
MinuteWar	2001	GPSgames.org
Nightclub City DJ Rivals	March 2011	Booyah
MyTown 2.0	2010	Booyah
Life is Crime	August 2011	Red Robot Labs
Mob Empire	2011	CrowdMob
panOULU Conqueror	August 2009	panOULU Network
Parallel Kingdoms	October 2008	PerBlueInc
2008 PGA Tour	September 2007	EA Tiburon; Exient Entertainment (NDS); and EA Sports

4. Prior Art for the ’746 patent

a. Prior Art Patents and Applications

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
US 2010/0020025 A1	Alexandre Lemort, Stephane Vales.	Dec. 23, 2008 (earliest priority Jul. 25, 2008).	Jan. 28, 2010

Patent/Publication No.	Inventor(s)	Priority/Filing Date	Publication/Issue Date
US 2007/0265081 A1	Yukimi Shimura, Stephen Lee, Yoonjoon Lee, Steven Petofalvi.	Aug. 14, 2006 (earliest priority Apr. 28, 2006)	Nov. 15, 2007
U.S. 2008/0080789 A1	Richard Marks, Gary M. Zalewski	August 16, 2007	April 3, 2008
U.S. 2012/0056818 A1	Naji S. Shafi, Jesse G. Tobiasson, Patrick Allan Gianelli, Joseph J. Brychell, Jeffery S. Welden	September 3, 2010	March 8, 2012
U.S. 2013/0120279 A1	Jakub Plichta, Tim Kukulski, Joerg Beckert	November 20, 2009	May 16, 2013
U.S. 2008/0040692 A1	Derek E. Sunday, Chris Whytock	June 29, 2006	February 14, 2008
U.S. 2002/0097229 A1	Eric Rose, Jack Segal, William Yates	Filed January 24, 2002, with priority to provisional application No. 60,263,819, filed January 24, 2001	July 25, 2002
U.S. 2011/0314427 A1	Vinodh Sundararajan	January 18, 2010	December 22, 2011
U.S. 2009/0325705 A1	Eric P. Filer, Loren Douglas Reas, Vasco Rubio, Dennis W. Tom	June 30, 2008	December 31, 2009
U.S. 2010/0277489 A1	Kevin Geisner, Relja Markovic, Stephen Gilchrist Latta, Gregory Nelson Snook, Kudo Tsunoda, Darren Alexander Bennett	May 1, 2009	November 4, 2010
U.S. 2012/0151420 A1	Brian Amento, Karrie J. Hanson, Kevin A. Li	December 8, 2010	June 14, 2012
U.S. 2005/0227762 A1	Akira Tahara, Kentaro Nishimura	January 21, 2005	October 13, 2005

b. Publications and Non-Patent Literature

Title	Author(s)	Publication/Issue Date
“Evaluation of Input Options on Mobile Gaming Devices”	Tobias Fritsch, Benjamin Voigt, Jochen Schiller	2008
“PinguTouch: Investigating Multi-Touch Technology for Collaborative Casual Gaming”	Christian Mattar	December 19, 2007
“Novel Interface for First Person Shooting Games on PDAs”	Chen Wei, Gary Marsden, James Gain	December 8, 2008
“Touchscreens vs. Traditional Controllers in Handheld Gaming”	Loutfouz Zaman, Daniel Natapov, Robert J. Teather	May 6, 2010
“gRmobile: A Framework for Touch and Accelerometer Gesture Recognition for Mobile Games”	Mark Joselli, Esteban Clua	October 8, 2009
“Double-side multi-touch input for mobile devices”	Erh-li Early Shen, Sung-Sheng Daniel Tsai, Hao-hua Chu, Yung-jen Jane Hsu, Chi-wen Euro Chen	April 4, 2009
“Challenges in Human-Computer Interaction Design for Mobile Devices”	Kuo-Ying Huang	October 20, 2009
“Gesture and touch controlled video player interface for mobile devices”	Shelley Buchinger, Ewald Hotop, Helmut Hlavacs, Francesca De Simone, Touradj Ebrahimi	October 25, 2010
“Gesture recognition as ubiquitous input for mobile phones”	Gerrit Niezen, Gerhard P. Hancke	September 21, 2008
“The Evolution of Game Controllers and Control Schemes and their Effect on their games”	Alastair H. Cummings	2007
“Designing Gestural Interfaces”	Dan Saffer	November 21, 2008
“Experimental Development of Competitive Digital Educational Games on Multi-touch Screen for Young Children”	Xiaohua Yu, Mian Zhang, Jie Ren, Huifang Zhao, Zhiting Zhu	2010

c. Prior Art Systems

System Title	Release Date (at least as early as)	Implemented By
Nintendo DS	November 21, 2004	Nintendo

System Title	Release Date (at least as early as)	Implemented By
Temple Run	August 15, 2011	Imangi Studios
Tiger Woods PGA Tour 2005 for Nintendo DS	December 14, 2004	EA Sports; EA Redwood Shores; Sensory Sweep Studios
Harry Potter and the Half Blood Prince for Nintendo DS	March 7, 2009	Electronic Arts; EA Bright Light
Angry Birds	Dec. 11, 2009	Rovio Entertainment
Shadow Cities	November 10, 2010	Grey Area
Arcade Hoops	November 7, 2008	Skyworks Interactive, Inc.
Mirror's Edge	December 14, 2009	DICE, published by EA
Kirby Canvas Curse	June 13, 2005 (in US)	HAL Laboratory
Spider: The Secret of Bryce Manor	August 11, 2009	Tiger Style
Canabalt	Oct. 1, 2009	Adam Saltsman
Rolando	Dec. 18, 2008	Ngmoco
The Legend of Zelda: Phantom Hourglass	Oct. 1, 2007 (in US)	Nintendo EAD/Nintendo
Castlevania: Dawn of Sorrow	August 25, 2005	Konami
Lost Magic	April 27, 2006	Taito; Ubisoft

B. Anticipation and Obviousness

The primary prior art references that Defendant relies on for the Asserted Patents are identified below. The exhibits to these Invalidity Contentions contain claim charts for the primary prior art references. Exemplary, non-limiting obviousness combinations of the primary prior art references are separately identified throughout these Invalidity Contentions.

Defendant's reliance on each prior art reference identified throughout these Invalidity Contentions (whether primary references or obviousness references) includes the reference itself, anything incorporated by the reference, any system embodying the reference, and any testimony by those with knowledge of the reference, such as named authors and inventors. All such documents and information shall be considered one prior art reference to the extent they describe a single prior art system or solution, or the closely related work of a single prior art author. In addition to the specific references below, Defendant reserves the right to rely on all admitted prior

art in the Asserted Patent and its file history, as well as anything admitted as prior art by Plaintiff or its experts or representatives. Defendant reserves the right to supplement these Invalidity Contentions as discovery reveals further information about prior use and/or prior public knowledge of products, methods, or systems that Defendant has reason to believe anticipate or render obvious one or more asserted claims. Defendant further reserves the right to identify and rely on additional prior art in Plaintiffs' possession, custody, or control that has not yet been produced or identified to Defendant, including prior art identified and/or produced in prior litigations or in post-grant proceedings at the U.S. Patent and Trademark Office.

1. Primary References

a. U.S. Patent No. 9,555,334 ("Bernard")

U.S. Patent No. 9,555,334 ("Bernard") was publicly available at least as early as June 19, 2008. Bernard qualifies as prior art to the '284, '797, '827, and '691 Patents under at least 35 U.S.C. §102(a), §102(b), and §103. Bernard qualifies as prior art to the '592 Patent under at least 35 U.S.C. §102(a), §102(b), and §103.

Bernard anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '284, '797, '827, '691, and '592 Patents. The claim charts attached as Exhibits A-2/B-2/C-2/D-2/F-2 provide representative, non-limiting examples of where Bernard discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Bernard does not anticipate any Asserted Claim of the '284, '797, '827, '691, and '592 Patents, such Asserted Claim would be obvious in view of Bernard alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Bernard with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

b. Botfighters

Botfighters was publicly available at least as early as April 2001. Botfighters qualifies as prior art to the '284, '797, '827, and '691 Patents under at least 35 U.S.C. §102(a), §102(b), §102(g), and §103. Botfighters qualifies as prior art to the '592 Patent under at least 35 U.S.C. §102(a), §102(b), §102(g), and §103.

Botfighters anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '284, '797, '827, '691, and '592 Patents. The claim charts attached as Exhibits A-11/B-11/C-11/D-11/F-8 provide representative, non-limiting examples of where Botfighters discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Botfighters does not anticipate any Asserted Claim of the '284, '797, '827, '691, and '592 Patents, such Asserted Claim would be obvious in view of Botfighters alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Botfighters with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

c. U.S. Patent No. 8,342,929 B2 ("Briggs")

U.S. Patent No. 8,342,929 B2 ("Briggs") was publicly available at least as early as October 28, 2010. Briggs qualifies as prior art to the '284, '797, '827, and '691 Patents under at least 35 U.S.C. §102(a), §102(b), and §103.

Briggs anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '284, '797, '827, and '691 Patents. The claim charts attached as Exhibits A-7/B-7/C-7/D-7 provide representative, non-limiting examples of where Briggs discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Briggs does not anticipate any Asserted Claim of the

'284, '797, '827, and '691 Patents, such Asserted Claim would be obvious in view of Briggs alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Briggs with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

d. U.S. Patent No. 8,292,743 ("Etter")

U.S. Patent No. 8,292,743 ("Etter") was publicly available at least as early as October 23, 2012. Etter qualifies as prior art to the '284, '797, '827, and '691 Patents under at least 35 U.S.C. §102(a), §102(e), and §103.

Etter anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '284, '797, '827, and '691 Patents. The claim charts attached as Exhibits A-4/B-4/C-4/D-4 provide representative, non-limiting examples of where Etter discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Etter does not anticipate any Asserted Claim of the '284, '797, '827, and '691 Patents, such Asserted Claim would be obvious in view of Etter alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Etter with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

e. Ingress

Ingress was publicly marketed as of July 12, 2012 and released as early as November 15, 2012. Ingress qualifies as prior art to the '284, '797, '827, and '691 Patents under at least 35 U.S.C. §102(a) and §102(g), and §103.

Ingress anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '284, '797, '827, and '691 Patents. The claim charts attached as Exhibits A-8/B-8/C-8/D-8 provide representative, non-limiting examples of where Ingress discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Ingress does not anticipate any Asserted Claim of the '284, '797, '827, and '691 Patents, such Asserted Claim would be obvious in view of Ingress alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Ingress with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

f. U.S. Patent Application No. 2012/0244945 (“Kolo”)

U.S. Patent Application No. 2012/0244945 (“Kolo”) was publicly available at least as early as September 27, 2012. Kolo qualifies as prior art to the '284, '797, '827, and '691 Patents under at least 35 U.S.C. §102(a), §102(e), and §103.

Kolo anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '284, '797, '827, and '691 Patents. The claim charts attached as Exhibits A-1/B-1/C-1/D-1 provide representative, non-limiting examples of where Kolo discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Kolo does not anticipate any Asserted Claim of the '284, '797, '827, and '691 Patents, such Asserted Claim would be obvious in view of Kolo alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Kolo with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

g. U.S. Patent Application No. 2011/0028220 (“Reiche”)

U.S. Patent Application No. 2011/0028220 (“Reiche”) was publicly available at least as early as February 3, 2011. Bernard qualifies as prior art to the ’284, ’797, ’827, and ’691 Patents under at least 35 U.S.C. §102(a), §102(b), §102(e), and §103. Bernard qualifies as prior art to the ’592 Patent under at least 35 U.S.C. §102(a), §102(b), and §103.

Reiche anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’284, ’797, ’827, ’691, and ’592 Patents. The claim charts attached as Exhibits A-3/B-3/C-3/D-3/F-6 provide representative, non-limiting examples of where Reiche discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Reiche does not anticipate any Asserted Claim of the ’284, ’797, ’827, ’691, and ’592 Patents, such Asserted Claim would be obvious in view of Reiche alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Reiche with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

h. Shadow Cities

Shadow Cities was publicly available at least as early as November 10, 2010. Shadow Cities qualifies as prior art to the ’284, ’797, ’827, and ’691 Patents under at least 35 U.S.C. §102(a), §102(b), §102(g), and §103. Shadow Cities qualifies as prior art to the ’592 Patent under at least pre-AIA 35 U.S.C. §102(a), §102(b), §102(g), and §103. Shadow Cities qualifies as prior art to the ’746 patent at least under pre-AIA 35 U.S.C. §102(a), §102(g), and §103.

Shadow Cities anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’284, ’797, ’827, ’691, ’592, and ’746 Patents. The claim charts attached as Exhibits A-9/B-9/C-9/D-9/F-7/G-10 provide

representative, non-limiting examples of where Shadow Cities discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Shadow Cities does not anticipate any Asserted Claim of the '284, '797, '827, '691, '592, and '746 Patents, such Asserted Claim would be obvious in view of Shadow Cities alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Shadow Cities with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

i. Turf Wars

Turf Wars was publicly available at least as early as December 7, 2009. Turf Wars qualifies as prior art to the '284, '797, '827 and '691 Patents under at least 35 U.S.C. § 102(a), §102(b), §102(g), and §103. Turf Wars qualifies as prior art to the '592 Patent under at least § 102(a), §102(b), §102(g), and §103.

Turf Wars anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '284, '797, '827, '691, and '592 Patents. The claim charts attached as Exhibits A-10/B-10/C-10/D-10/F-10 provide representative, non-limiting examples of where Turf Wars discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Turf Wars does not anticipate any Asserted Claim of the '284, '797, '827, '691 and '592 Patents, such Asserted Claim would be obvious in view of Turf Wars alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Turf Wars with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

j. U.S. Patent No. 8,663,014 (“Xu”)

U.S. Patent No. 8,663,014 (“Xu”) was publicly available at least as early as August 2, 2012. Xu qualifies as prior art to the ’284, ’797, ’827, and ’691 Patents under at least 35 U.S.C. §102(a) and §103.

Xu anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’284, ’797, ’827, and ’691 Patents. The claim charts attached as Exhibits A-5/B-5/C-5/D-5 provide representative, non-limiting examples of where Xu discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Xu does not anticipate any Asserted Claim of the ’284, ’797, ’827, and ’691 Patents, such Asserted Claim would be obvious in view of Xu alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Xu with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

k. U.S. Patent Application No. 2011/0214071 A1 (“Zyda”)

U.S. Patent Application No. 2011/0214071 A1 (“Zyda”) was publicly available at least as early as September 1, 2011. Zyda qualifies as prior art to the ’284, ’797, ’827, and ’691 Patents under at least 35 U.S.C. §102(a), §102(b), and §103.

Zyda anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’284, ’797, ’827, and ’691 Patents. The claim charts attached as Exhibits A-6/B-6/C-6/D-6 provide representative, non-limiting examples of where Zyda discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Zyda does not anticipate any Asserted Claim of the ’284, ’797, ’827, and ’691 Patents, such Asserted Claim would be obvious in view of Zyda alone

and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Zyda with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

l. Parallel Kingdom

Parallel Kingdom was publicly available at least as early as October 2008. Parallel Kingdom qualifies as prior art to the '284, '797, '827 and '691 Patents under at least 35 U.S.C. §102(a), §102(b), §102(g), and §103. Parallel Kingdom qualifies as prior art to the '592 Patent under at least 35 U.S.C. §102(a), §102(b), §102(g), and §103.

Parallel Kingdom anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '284, '797, '827, '691, and '592 Patents. The claim charts attached as Exhibits A-12/B-12/C-12/D-12/F-9 provide representative, non-limiting examples of where Parallel Kingdom discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Parallel Kingdom does not anticipate any Asserted Claim of the '284, '797, '827, '691, and '592 Patents, such Asserted Claim would be obvious in view of Parallel Kingdom alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Parallel Kingdom with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

m. U.S. Patent No. 8,668,585 ("Ackley")

U.S. Patent No. 8,668,585 ("Ackley") was publicly available at least as early as February 14, 2012. Ackley qualifies as prior art to the '592 Patent under at least 35 U.S.C. §102(a), §102(b), and §103.

Ackley anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '592 Patent. The claim chart attached as Exhibit F-5 provides representative, non-limiting examples of where Ackley discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Ackley does not anticipate any Asserted Claim of the '592 Patent, such Asserted Claim would be obvious in view of Ackley alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Ackley with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

n. U.S. Patent Application No. 2005/0009608 A1 (“Robarts”)

U.S. Patent Application No. 2005/0009608 A1 (“Robarts”) was publicly available at least as early as January 13, 2005. Robarts qualifies as prior art to the '592 Patent under at least 35 U.S.C. §102(a), §102(b), and §103.

Robarts anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '592 Patent. The claim charts attached as Exhibit F-3 provide representative, non-limiting examples of where Robarts discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Robarts does not anticipate any Asserted Claim of the '592 Patent, such Asserted Claim would be obvious in view of Robarts alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Robarts with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

o. U.S. Patent No. 8,675,017 B2 (“Rose”)

U.S. Patent No. 8,675,017 B2 (“Rose”) was publicly available at least as early as January 1, 2009. Rose qualifies as prior art to the ’592 Patent under at least 35 U.S.C. §102(a), § 102(b), and §103.

Rose anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’592 Patent. The claim charts attached as Exhibit F-4 provide representative, non-limiting examples of where Rose discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Rose does not anticipate any Asserted Claim of the ’592 Patent, such Asserted Claim would be obvious in view of Rose alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Rose with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

p. U.S. Patent No. 7,887,421 B2 (“Tabata”)

U.S. Patent No. 7,887,421 B2 (“Tabata”) was publicly available at least as early as March 27, 2008. Tabata qualifies as prior art to the ’592 Patent under at least 35 U.S.C. §102(a), §102(b), and §103.

Tabata anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’592 Patent. The claim charts attached as Exhibit F-1 provide representative, non-limiting examples of where Tabata discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Tabata does not anticipate any Asserted Claim of the ’592 Patent, such Asserted Claim would be obvious in view of Tabata alone and/or in view of the knowledge of one of ordinary skill

in the art, and it would have been obvious to combine or modify Tabata with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

**q. U.S. Patent Application Publication No. 2010/0020025 A1
("Lemort")**

U.S. Patent Application Publication No. 2010/0020025 A1 ("Lemort"), titled "CONTINUOUS RECOGNITION OF MULTI-TOUCH GESTURES," was filed on December 23, 2008, and published on January 28, 2010. Lemort qualifies as prior art to the '746 Patent under at least 35 U.S.C. §102(a), §102(b), §102(e), and §103.

Lemort anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '746 Patent. The claim chart attached as Exhibit G-1 provides representative, non-limiting examples of where Lemort discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Lemort does not anticipate any Asserted Claim of the '746 Patent, such Asserted Claim would be obvious in view of Lemort alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Lemort with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

**r. U.S. Patent Application Publication No. 2007/0265081 A1
("Shimura")**

U.S. Patent Application Publication No. 2007/0265081 A1 ("Shimura"), titled "TOUCH-CONTROLLED GAME CHARACTER MOTION PROVIDING DYNAMICALLY-POSITIONED VIRTUAL CONTROL PAD," was filed on August 14, 2006, has an earliest priority date of April 28, 2006, and was published on November 15, 2007. Shimura qualifies as prior art to the '746 Patent under at least 35 U.S.C. §102(a), §102 (b), §102 (e), and §103.

Shimura anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '746 Patent. The claim chart attached as Exhibit G-2 provides representative, non-limiting examples of where Shimura discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Shimura does not anticipate any Asserted Claim of the '746 Patent, such Asserted Claim would be obvious in view of Shimura alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Shimura with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

**s. U.S. Patent Application Publication No. 2009/0325705 A1
("Filer")**

U.S. Patent Application Publication No. 2009/0325705 A1 ("Filer"), titled "DYNAMIC SELECTION OF SENSOR SENSITIVITY IN A GAME INPUT SYSTEM," was filed on June 30, 2008, and published on December 31, 2009. Filer qualifies as prior art to the '746 Patent under at least 35 U.S.C. §102(a), §102(b), and §103.

Filer anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '746 Patent. The claim chart attached as Exhibit G-3 provides representative, non-limiting examples of where Filer discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Filer does not anticipate any Asserted Claim of the '746 Patent, such Asserted Claim would be obvious in view of Filer alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Filer with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

**t. U.S. Patent Application Publication No. 2013/0120279 A1
("Plitcha")**

U.S. Patent Application Publication No. 2013/0120279 A1 ("Plitcha"), titled "SYSTEM AND METHOD FOR DEVELOPING AND CLASSIFYING TOUCH GESTURES," was filed on November 20, 2009, and published on May 16, 2013. Plitcha qualifies as prior art to the '746 Patent under at least 35 U.S.C. § 102(a), §102(b), §102(e), and §103.

Plitcha anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '746 Patent. The claim chart attached as Exhibit G-4 provides representative, non-limiting examples of where Plitcha discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Plitcha does not anticipate any Asserted Claim of the '746 Patent, such Asserted Claim would be obvious in view of Plitcha alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Plitcha with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

**u. U.S. Patent Application Publication No. 2005/0227762 A1
("Tahara")**

U.S. Patent Application Publication No. 2005/0227762 A1 ("Tahara"), titled "GAME APPARATUS AND STORAGE MEDIUM STORING GAME PROGRAM," was filed on January 21, 2005, and published on October 13, 2005. Tahara qualifies as prior art to the '746 Patent under at least 35 U.S.C. § 102(a), §102(b), and §103.

Tahara anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '746 Patent. The claim chart attached as Exhibit G-5 provides representative, non-limiting examples of where Tahara discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff

asserts that Tahara does not anticipate any Asserted Claim of the '746 Patent, such Asserted Claim would be obvious in view of Tahara alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Tahara with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

v. Tiger Woods PGA Tour 2005 for Nintendo DS (“Tiger Woods”)

Tiger Woods PGA Tour 2005 for Nintendo DS (“Tiger Woods”) was publicly available at least as early as December 14, 2004. Tiger Woods qualifies as prior art to the '746 Patent under at least 35 U.S.C. § 102(a), §102(b), §102(g), and §103.

Tiger Woods anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '746 Patent. The claim chart attached as Exhibit G-6 provides representative, non-limiting examples of where Tiger Woods discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Tiger Woods does not anticipate any Asserted Claim of the '746 Patent, such Asserted Claim would be obvious in view of Tiger Woods alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Tiger Woods with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

w. Harry Potter and the Half-Blood Prince for Nintendo DS (“Harry Potter”)

Harry Potter and the Half-Blood Prince for Nintendo DS (“Harry Potter”) was publicly available at least as early as March 7, 2009. Harry Potter qualifies as prior art to the '746 Patent under at least 35 U.S.C. §102(a), §102(b), §102(g), and §103.

Harry Potter anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '746 Patent. The claim chart attached as Exhibit G-7 provides representative, non-limiting examples of where Harry Potter discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Harry Potter does not anticipate any Asserted Claim of the '746 Patent, such Asserted Claim would be obvious in view of Harry Potter alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Harry Potter with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

x. Temple Run (“Temple Run”)

Temple Run was publicly available at least as early as August 4, 2011. Temple Run qualifies as prior art to the '746 Patent under at least 35 U.S.C. § 102(a), §102(g), and §103.

Temple Run anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '746 Patent. The claim chart attached as Exhibit G-8 provides representative, non-limiting examples of where Temple Run discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Temple Run does not anticipate any Asserted Claim of the '746 Patent, such Asserted Claim would be obvious in view of Temple Run alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Temple Run with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

y. Lost Magic for Nintendo DS (“Lost Magic (2006)”)

Lost Magic (2006) was publicly available at least as early as April 27, 2006. Lost Magic (2006) qualifies as prior art to the ’746 Patent under at least 35 U.S.C. §102(a), §102(b), §102(g), and §103.

Lost Magic (2006) anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’746 Patent. The claim chart attached as Exhibit G-9 provides representative, non-limiting examples of where Lost Magic (2006) discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Lost Magic (2006) does not anticipate any Asserted Claim of the ’746 Patent, such Asserted Claim would be obvious in view of Lost Magic (2006) alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Lost Magic (2006) with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

z. U.S. Patent Publication No. 2009/0216546 (“Huang”)

U.S. Patent Publication No. 2009/0216546 (“Huang”) was publicly available at least as early as August 27, 2009. Huang qualifies as prior art to the ’710 Patent under at least 35 U.S.C. §102(a), §102(b), §102(e), and § 103.

Huang anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’710 Patent. The claim chart attached as Exhibit E-1 provides representative, non-limiting examples of where Huang discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Huang does not anticipate any Asserted Claim of the ’710 Patent, such Asserted Claim would be obvious in view of Huang alone and/or in view of the knowledge of one of ordinary skill

in the art, and it would have been obvious to combine or modify Huang with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

aa. U.S. Patent Publication No. 2008/0274811 (“Ganz”)

U.S. Patent Publication No. 2008/0274511 (“Ganz”) was publicly available at least as early as August 14, 2007. Ganz qualifies as prior art to the ’710 Patent under at least 35 U.S.C. §102(a), §102(b), §102(e), and §103.

Ganz anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’710 Patent. The claim chart attached as Exhibit E-2 provides representative, non-limiting examples of where Ganz discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Ganz does not anticipate any Asserted Claim of the ’710 Patent, such Asserted Claim would be obvious in view of Ganz alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Ganz with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

bb. U.S. Patent Publication No. 2010/0138455 A1 (“Alewine”)

U.S. Patent Publication No. 2010/0138455 A1 (“Alewine”) was publicly available at least as early as June 3, 2010. Alewine qualifies as prior art to the ’710 Patent under at least 35 U.S.C. §102(a), §102(e), and §103.

Alewine anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’710 Patent. The claim chart attached as Exhibit E-3 provides representative, non-limiting examples of where Alewine discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff

asserts that Alewine does not anticipate any Asserted Claim of the '710 Patent, such Asserted Claim would be obvious in view of Alewine alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Alewine with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

cc. U.S. Patent No. 7,970,713 (“Gorelik”)

U.S. Patent 7,970,713 (“Gorelik”) was publicly available at least as early as June 28, 2011. Gorelik qualifies as prior art to the '710 Patent under at least 35 U.S.C. §102(a), §102(e), and §103.

Gorelik anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '710 Patent. The claim chart attached as Exhibit E-4 provides representative, non-limiting examples of where Gorelik discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Gorelik does not anticipate any Asserted Claim of the '710 Patent, such Asserted Claim would be obvious in view of Gorelik alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Gorelik with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

dd. U.S. Patent Publication No. 2008/0147424 (“Rowan”)

U.S. Patent Publication No. 2008/0147424 (“Rowan”) was publicly available at least as early as June 19, 2008. Rowan qualifies as prior art to the '710 Patent under at least 35 U.S.C. §102(a), §102(b), §102(e), and §103.

Rowan anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '710 Patent. The claim chart attached as Exhibit E-5 provides representative, non-limiting examples of where Rowan discloses, either

expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Rowan does not anticipate any Asserted Claim of the '710 Patent, such Asserted Claim would be obvious in view of Rowan alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Rowan with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

ee. International Patent Publication No. WO2001084347 ("Lai")

International Patent Publication No. WO2001084347 ("Lai") was publicly available at least as early as November 8, 2001. Lai qualifies as prior art to the '710 Patent under at least 35 U.S.C. §102(a), §102(b), and §103.

Lai anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '710 Patent. The claim chart attached as Exhibit E-6 provides representative, non-limiting examples of where Lai discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Lai does not anticipate any Asserted Claim of the '710 Patent, such Asserted Claim would be obvious in view of Lai alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Lai with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

ff. U.S. Patent Publication No. 2011/0078088 ("Dawson")

U.S. Patent Publication No. 2011/0078088 ("Dawson") was publicly available at least as early as March 31, 2011. Dawson qualifies as prior art to the '710 Patent under at least 35 U.S.C. §102(a), §102(e), §103.

Dawson anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '710 Patent. The claim chart attached as Exhibit E-7 provides representative, non-limiting examples of where Dawson discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Dawson does not anticipate any Asserted Claim of the '710 Patent, such Asserted Claim would be obvious in view of Dawson alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Dawson with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

gg. U.S. Patent No. 7,515,873 (“Brown”)

U.S. Patent No. 7,515,873 (“Brown”) was publicly available at least as early as April 7, 2009. Brown qualifies as prior art to the '710 Patent under at least 35 U.S.C. §102(a), §102(b), §102(e), and §103.

Brown anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '710 Patent. The claim chart attached as Exhibit E-8 provides representative, non-limiting examples of where Brown discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Brown does not anticipate any Asserted Claim of the '710 Patent, such Asserted Claim would be obvious in view of Brown alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Brown with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

hh. World of Warcraft Auction House (“WoW Auction House”)

World of Warcraft Auction House (“WoW Auction House”) was publicly available at least as early as November 23, 2004. WoW Auction House qualifies as prior art to the ’710 Patent under at least 35 U.S.C. §102(a), §102 (b), §102(g), and §103.

WoW Auction House anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’710 Patent. The claim chart attached as Exhibit E-9 provides representative, non-limiting examples of where WoW Auction House discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that WoW Auction House does not anticipate any Asserted Claim of the ’710 Patent, such Asserted Claim would be obvious in view of WoW Auction House alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify WoW Auction House with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

ii. Tradeable Reputation and Online Economic Efficiency: A Field Experiment in Second Life (“Xu”)

Tradeable Reputation and Online Economic Efficiency: A Field Experiment in Second Life (“Xu”) was publicly available at least as early as August 9, 2009. Xu qualifies as prior art to the ’710 Patent under at least 35 U.S.C. §102(a), §102(b), §102(g), and §103.

Xu anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’710 Patent. The claim chart attached as Exhibit E-10 provides representative, non-limiting examples of where Xu discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Xu does not anticipate any Asserted Claim of the ’710 Patent, such Asserted Claim would be obvious

in view of Xu alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Xu with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

jj. Pokemon Black/White (“Pokemon Black/White”)

Pokemon Black/White (“Pokemon Black/White”) was publicly available at least as early as September 18, 2010. Pokemon Black/White qualifies as prior art to the ’710 Patent under at least 35 U.S.C. §102(a), §102(g), and §103.

Pokemon Black/White anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’710 Patent. The claim chart attached as Exhibit E-11 provides representative, non-limiting examples of where Pokemon Black/White discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Pokemon Black/White does not anticipate any Asserted Claim of the ’710 Patent, such Asserted Claim would be obvious in view of Pokemon Black/White alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Pokemon Black/White with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

kk. U.S. Patent No. 7,739,153 (“Anderson”)

U.S. Patent No. 7,739,153 (“Anderson”) was publicly available at least as early as June 15, 2010. Anderson qualifies as prior art to the ’710 Patent under at least 35 U.S.C. §102(a), §102(e), and §103.

Anderson anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the ’710 Patent. The claim chart attached

as Exhibit E-12 provides representative, non-limiting examples of where Anderson discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Anderson does not anticipate any Asserted Claim of the '710 Patent, such Asserted Claim would be obvious in view of Anderson alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Anderson with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

II. Second Life

Second Life was publicly available at least as early as June 23, 2003. Second Life qualifies as prior art to the '710 Patent under at least 35 U.S.C. §102(a), §102 (b), §102(g), and §103.

Second Life anticipates and/or renders obvious (in combination with the knowledge of a person of ordinary skill in the art) all Asserted Claims of the '710 Patent. The claim chart attached as Exhibit E-13 provides representative, non-limiting examples of where Second Life discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiff asserts that Second Life does not anticipate any Asserted Claim of the '710 Patent, such Asserted Claim would be obvious in view of Second Life alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Second Life with concepts from other prior art identified in these contentions, and/or in view of the knowledge of one of ordinary skill in the art, including as explained herein, to achieve the claimed inventions.

2. Exemplary § 103 Claim Charts

The attached claim charts (Exhibits A1–A12, B1–B12, C1–C12, D1–D12, E1–E13, F1–F10, and G1–G10 (“Preliminary Invalidity Claim Charts”) are based, in whole or in part, on

Plaintiffs' asserted theories of infringement in this case, to the extent discernible from Plaintiffs' Disclosure of Asserted Claims and Infringement Contentions.

As an initial matter, all portions of each prior art reference cited in each of the attached claim charts are relied upon to support the disclosure of each patent claim limitation, as all portions provide general support. Representative descriptions and supporting citations are nevertheless provided, but are merely exemplary; they do not necessarily reflect every instance where a particular claim term or claim limitation may be disclosed in or taught by the prior art reference. References to figures or drawings refer to the figures/drawings themselves, as well as to any accompanying text or text necessary to understand the figures or drawings. References to text refers to the text itself, as well as the accompanying figures or drawings that accompany the text. Defendant reserves the right to rely on additional, or different, portions of the prior art references, other publications and expert testimony to establish what these references would have taught one of ordinary skill in the art, or in what manner they would have motivated a particular combination of references. Moreover, in certain instances, representative documents for certain prior art systems are cited, but, again, are merely exemplary; they do not necessarily reflect or include every document relating to the prior art system that exists and that discloses or teaches a particular claim term or claim limitation. Defendant reserves the right to rely on any and all documents that describe or relate to prior art systems, including relying on the system itself. Defendant also reserves the right to rely on the testimony of the authors, named inventors, or anyone else with knowledge of the prior art references and systems identified herein, as well as expert testimony regarding any such references or systems.

a. Claim Charts for Prior Art for the '284, '797, '827, and '691 patents

Ex.	Reference(s)
A-1/B-1/C-1/D-1	U.S. Patent Application Publication No. 2012/0244945 ("Kolo")
A-2/B-2/C-2/D-2	U.S. 9,555,334 B2 ("Bernard")
A-3/B-3/C-3/D-3	U.S. Patent Application Publication No. 2011/0028220 ("Reiche")
A-4/B-4/C-4/D-4	U.S. 8,292,743 ("Etter")
A-5/B-5/C-5/D-5	U.S. 8,663,014 B2 ("Xu")
A-6/B-6/C-6/D-6	U.S. Patent Application Publication No. 2011/0214071 A1 ("Zyda")
A-7/B-7/C-7/D-7	U.S. 8,342,929 B2 ("Briggs")
A-8/B-8/C-8/D-8	Ingress
A-9/B-9/C-9/D-9	Shadow Cities
A-10/B-10/C-10/D-10	Turf Wars
A-11/B-11/C-11/D-11	BotFighters
A-12/B-12/C-12/D-12	Parallel Kingdoms

b. Claim Charts for Prior Art for the '710 patent

Ex.	Reference(s)
E-1	U.S. Patent Application Publication No. 2009/0216546 A1 ("Huang")
E-2	U.S. Patent Application Publication No. 2008/0274811 A1 ("Ganz")
E-3	U.S. Patent Application Publication No. 2010/0138455 A1 ("Alewine")
E-4	U.S. 7,970,713 ("Gorelik")
E-5	U.S. Patent Application Publication No. 2008/0147424 A1 ("Rowan")
E-6	WO2001084347 A1 ("Lai")
E-7	U.S. Patent Application Publication No. 2011/0078088 A1 ("Dawson")
E-8	U.S. 7,515,873 B2 ("Brown")
E-9	World of Warcraft Auction House
E-10	Tradable Reputation and Online Economic Efficiency: A Field Experiment in Second Life, Hong Xu et al. ("Xu")
E-11	Pokémon Black Version and Pokémon White Version ("Pokémon Black/White")
E-12	U.S. 7,739,153 B1 ("Anderson")

Ex.	Reference(s)
E-13	Second Life

c. Claim Charts for Prior Art for the '592 patent

Ex.	Reference(s)
F-1	U.S. 7,887,421 B2 ("Tabata")
F-2	U.S. 9,555,334 B2 ("Bernard")
F-3	U.S. 2005/0009608 A1 ("Robarts")
F-4	U.S. 8,675,017 B2 ("Rose")
F-5	U.S. 8,668,585 ("Ackley")
F-6	U.S. Patent Application Publication No. 2011/0028220 ("Reiche")
F-7	Shadow Cities
F-8	Turf Wars
F-9	Botfighters
F-10	Parallel Kingdoms

d. Claim Charts for Prior Art for the '746 patent

Ex.	Reference(s)
G-1	U.S. Publ. No. 2010/0020025 A1 ("Lemort")
G-2	U.S. Publ. No. 2007/0265081 A1 ("Shimura")
G-3	U.S. Publ. No. 2009/0325705 A1 ("Filer")
G-4	U.S. Publ. No. 2013/0120279 A1 ("Plitcha")
G-5	U.S. Publ. No. 2005/0227762 A1 ("Tahara")
G-6	Tiger Woods PGA Tour 2005 for Nintendo DS ("Tiger Woods")
G-7	Harry Potter and the Half-Blood Prince for Nintendo DS ("Harry Potter")
G-8	Temple Run
G-9	Lost Magic
G-10	Shadow Cities

3. Motivation to Combine

Defendant believes that no showing of a specific motivation to combine prior art is required to combine the references disclosed in the attached charts, which are all in the same field of

endeavor and address similar problems as the Asserted Patents; there was a reason to make each combination, each combination of art would have produced no unexpected results, and each combination at most would simply represent a known alternative to one of ordinary skill in the art. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 414–18 (2007) (rejecting the Federal Circuit’s “rigid” application of the teaching, suggestion, or motivation to combine test instead espousing an “expansive and flexible” approach). Indeed, the Supreme Court held that a person of ordinary skill in the art is “a person of ordinary creativity, not an automaton” and “in many cases a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like a pieces of a puzzle.” *Id.* at 420–21. Indeed, many of the prior art references relied upon are games, and the features of one game would have been obvious to incorporate in the teachings of another game.

Nevertheless, in addition to the information contained elsewhere in these contentions, Defendant identifies additional exemplary motivations and reasons to combine the cited art. A person of ordinary skill in the art would have been motivated to combine the primary and additional prior art references as set forth above. Multiple teachings, suggestions, and/or reasons to modify any of the references and/or to combine any two or more of the references come from many sources, including the prior art (specific and as a whole), common knowledge, common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, obvious to try, the nature of the problem faced, and/or knowledge possessed by one of ordinary skill in the art.¹ In addition, the patentee admits in the intrinsic record, including the specification and prosecution history of the Asserted Patent, that many of the claimed features were conventional and known in the art.

¹ Defendant reserves the right to present qualified expert testimony on any or all of these items.

In general, a claimed invention is unpatentable if the differences between it and the prior art “are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” 35 U.S.C. § 103(a); *Graham v. John Deere Co.*, 383 U.S. 1, 13–14 (1966). The ultimate determination of whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries including: “(1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness.” *Miles Labs., Inc. v. Shandon, Inc.*, 997 F.2d 870, 877 (Fed. Cir. 1993) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18, 86 S.Ct. 684, 693–694, 15 L.Ed.2d 545 (1966)).

KSR International Co. v. Teleflex Inc., et al., 550 U.S. 398 (2007) (“KSR”), reaffirmed *Graham*, holding that a claimed invention can be obvious even if there is no teaching, suggestion, or motivation for combining the prior art to produce that invention. In determining whether a claim is obvious, “[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 418. In determining whether a claim is obvious, “a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* When prior art elements are combined according to known methods to yield predictable results, the claimed invention is obvious. *Id.* at 417. In addition, “[o]ne of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of the invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *Id.* at 419–20. “Under the correct analysis, any need or

problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420.

Any suggested obviousness combinations set forth herein are in the alternative to Defendant’s anticipation contentions and are not to be construed to suggest that any reference included in any combination is not anticipatory in its own right or is not the basis for a single-reference obviousness defense. In particular, Defendant is currently unaware of the extent, if any, to which Plaintiff will contend that certain limitations of the Asserted Claims are not disclosed in the art identified by Defendant as anticipatory. To the extent that an issue arises with respect to any such claim limitation, Defendant reserves the right to identify other references and combinations, which may make obvious the allegedly missing limitation in the disclosed system or method.

The rationale to combine or modify prior art references is significantly stronger when the references seek to solve the same problem, come from the same field, and correspond well. *In re Inland Steel Co.*, 265 F.3d 1354, 1362–64 (Fed. Cir. 2001).

In view of the Supreme Court’s *KSR* decision, the PTO issued, and updated, a set of Examination Guidelines. *See* Examination Guidelines for Determining Obviousness Under 35 U.S.C. § 103 in view of the Supreme Court Decision in *KSR International Co. v. Teleflex, Inc.*, 72 Fed. Reg. 57526 (October 10, 2007); Examination Guidelines Update: Development in the Obviousness Inquiry After *KSR v. Teleflex*, 75 Fed. Reg. 53643-60 (September 2010); *see also* MPEP § 2141 (<https://www.uspto.gov/web/offices/pac/mpep/s2141.html>) (accessed Aug. 28, 2025). These Guidelines summarized the *KSR* decision and subsequent case law, as well as identified various rationales for finding a claim obvious, including those based on other precedents. Those rationales include:

- (1) Combining prior art elements according to known methods to yield predictable results;
- (2) Simple substitution of one known element for another to obtain predictable results;
- (3) Use of known technique to improve similar devices (methods, or products) in the same way;
- (4) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (5) “Obvious to try” – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- (6) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and
- (7) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Defendant contends that one or more of these rationales apply in considering the obviousness of the Asserted Claims of the Asserted Patent.

Clear and logical rationale to combine any of the references identified above with others exists from the prior art references themselves, as well as from the interrelated teachings of other prior art references, common knowledge, common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, obviousness to try, the existence and nature of a known need or problem, and/or knowledge possessed by a person of ordinary skill. In addition, it would have been obvious to combine the prior art references identified above because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompts variations based on predictable design incentives and/or market forces either in the same field or a different one. In addition, the combinations of the prior art references identified above would have been obvious because the combinations represent the known potential options with a reasonable expectation of success. Therefore, various reasons to combine the disclosed references exist. Defendant reserves the right to rely on the knowledge of

those skilled in the art, the testimony of expert witnesses, and/or other prior art, to show that it would have been obvious to include the allegedly missing limitation and to explain the motivation to combine the prior art elements.

To the extent that prior art identified by Defendant as anticipatory is found not to anticipate the Asserted Claims: (1) the prior art establishes that the claimed subject matter was obvious to a person of ordinary skill in the art at the time of the alleged invention; (2) the claims are nevertheless unpatentable because the Asserted Claims contain nothing that goes beyond “ordinary innovation”; (3) no Asserted Claim goes beyond combining known elements to achieve predictable results (particularly in the predictable art(s) of the Asserted Patent) or does more than choose between clear alternatives known to those of skill in the art; and/or (4) the prior art renders the Asserted Claims obvious either alone or in combination with each other or one or more of the other references identified in these Invalidity Contentions.

Based on the above, a person of ordinary skill in the art would have combined the teachings of the prior art references discussed and charted in the exhibits identified above and attached to this cover pleading. The combinations of these references would have rendered obvious to one of ordinary skill in the art the subject matter of the asserted claims of the Asserted Patents. The below identifies exemplary motivations to combine that reflect the reasons why a POSITA would be motivated to combine the various prior art references charted in the Exhibits attached to Defendant’s Invalidity Contentions; Defendant reserves the right to identify different combinations of prior art references, which a POSITA would have been motivated to combine for similar reasons to those discussed below.

a. Specific Motivations to Combine Prior Art related to the Location Patents (The '284, '797, '827, and '691 Patents)

A Person of Skill in the Art would have been motivated to combine the prior art references discussed in Exhibits A-1 through A-12 / B-1 through B-12 / C-1 through C-12 / D-1 through D-12. The references identified in Exhibits A-1 through A-12 / B-1 through B-12 / C-1 through C-12 / D-1 through D-12 are analogous prior art to the subject matter of the asserted claims of the '284, '797, '827, and '691 Patents, and, for at least the reasons set forth below, are properly combinable. The references charted are either directed to the same field of endeavor as the Location Patents, or they are reasonably pertinent to the problem faced by the inventors of the Location Patents.

Because these prior art references exist within a single field of art, it would have been obvious for a person of skill in the art to look from one piece of prior art to another in order to find any missing functionality they desired to implement. Therefore, these references provide interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the asserted patents.

Numerous prior art references, including those identified in the attached exhibits, reflect common knowledge and the state of the prior art before the earliest claimed effective filing date of the '284, '797, '827, and '691 Patents. As it would be unduly burdensome to create detailed claim charts for all of the invalidating combinations, for at least the reasons described in these invalidity contentions, it would have been obvious to one of ordinary skill in the art to combine any of a number of prior art references, including any combination of those identified in the attached exhibits, to meet the limitations of the asserted claims of the '284, '797, '827, and '691 Patents.

Defendant's inclusion of exemplary combinations, in view of the factors and exemplary motivations to combine identified herein, does not preclude Defendant from identifying other invalidating combinations and/or motivations as appropriate. For example, although the examples discuss combining Reiche and Xu in combination with Zyda, Defendant might later rely on Kolo and Etter in combination with Zyda, using Zyda to improve on Kolo+Etter's teachings in a similar way as with Reiche+Xu (e.g., by providing the ability to track news/local events and incorporate gameplay based on those extracted keywords or events).

(i) Reiche (U.S. Patent Application Publication No. 2011/0028220) in view of Xu (U.S. Patent No. 8,663,014)

Reiche utilizes a player's real-world location to further game play in a video game. Reiche explains that a "disadvantage of [prior art] video games is a lack of interaction with the broader physical world." Reiche, ¶2. Reiche discloses a variety of ways to overcome this disadvantage. Reiche teaches that a player's physical location can be used to associate with a player's character an in-game attribute assigned to the player's physical location. *E.g., id.*, ¶¶20-26, Fig. 3. Reiche also discloses that a player may interact with other players, *e.g.*, by purchasing real property before they do, *id.*, ¶¶24, 31, or battling with other players, *id.*, ¶¶40, 45. Reiche discloses an improvement over the prior art because it drives further interaction with the broader physical world (*i.e.*, based on both player physical location and the physical location of other players).

Although Reiche discloses multiplayer aspects of its invention, it does not consider problems that may arise if there are either not enough or too many players attempting to interact in a game at a player's physical location; however, Xu—in the same field of endeavor as the '284 Patent and Reiche—explains that problems may occur when there are too few or too many people playing a game at a given physical location. Xu, 4:40-52. In Xu, as in Reiche, virtual locations can correspond to physical locations. Xu, 1:49-52; Reiche, ¶¶22-24, 31. Accordingly, a POSITA would

have understood that Reiche may face the same problem identified in Xu, namely that there are too few or too many players at a given location such that game play is negatively impacted, and a POSITA would have been motivated to look to Xu for a solution.

In the case where there are not enough players at a virtual location corresponding to a physical location, Xu teaches that “one may randomly select one or more highly trafficked places in the same category and merge them with the original place into a logical place. The physical places in a logical unit do not have to be in proximity to each other.” Xu, 4:42-49. And in cases where there are too many players, Xu provides the option to either create copies of physical resources that can be accessed by different groups of similarly leveled players, or to create new in-game locations associated with GPS coordinates. *Id.*, 4:52-63.

A POSITA would have been motivated to apply these techniques to Reiche to drive multiplayer engagement in instances where too few or too many players are at a location. Doing so would have improved upon Reiche’s goal of furthering video game interaction with the broader physical world by facilitating multiplayer game play (interaction with the broader physical world via interaction with other people) while at the same time allowing for meaningful game play even if there are too few or too many players at a particular physical location to allow for the intended multiplayer functions taught in Reiche. A POSITA would have had a reasonable expectation of success in doing so because it would have merely involved either modifying how a player’s location corresponds to their virtual location, or generating additional virtual resources, both of which would have been well within the capability of a POSITA.

In addition, doing so would have been no more than combining prior art elements (Reiche’s multiplayer video game that associates attributes based on a player’s location with the player’s character and Xu’s solution for sub-optimal multiplayer population density in a location-based

video game) according to known methods (creating a logical unit to consolidate players when there are not enough players in a physical location or creating more resources for players) to yield predictable results (improved multiplayer game play in a game that normally associates attributes with player characters based on a player's physical location). It also would have been no more than use of a known technique (Xu's creation of logical units or additional resources to improve multiplayer game play) to improve similar methods (Reiche's use of player location in video games) in the same way (improving multiplayer game play when there are not enough players at a given location).

(ii) Reiche and Xu in view of Zyda (U.S. Patent Application Publication 2011/0028220)

A POSITA looking to further improve interaction with the broader outside world as taught by Reiche in the Reiche-Xu combination would have been motivated to implement Zyda's teachings of receiving real-world news in real time, extracting occurrences from the news, and modifying attributes in the Reiche's virtual world based on the real-world occurrences. A POSITA would have found it obvious to try to increase player engagement by modifying content based on current news. *Id.* Reiche already teaches taking into account the real-world location associated with in-game attributes and the time a player visits that location in determining what attributes are available to the player. Reiche, ¶¶21, 42.

In other words, Reiche teaches accounting for time and place in considering in-game attributes. Zyda similarly teaches the news affecting a virtual world accounting for a user's geographic location (place) and recent events (time), so combining Zyda's teachings with Reiche's would have merely been an extension of the principles Reiche already applies to improve player engagement via increasing interaction with the outside world. A POSITA would have had a reasonable expectation of success because the combination would have merely required known

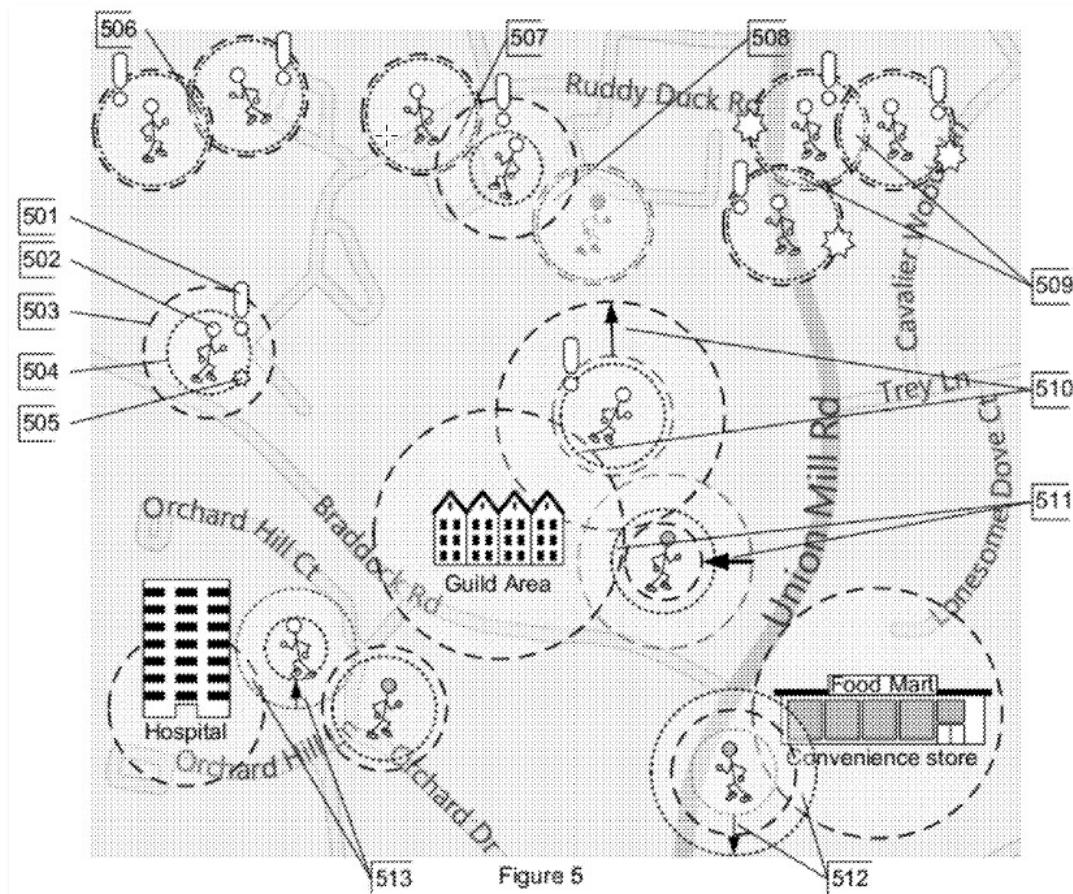
modifications, such as accessing news based on geographic location, or extracting keywords from a document (the news) to the software of Reiche's game.

Applying Zyda's teachings to Reiche would have been no more than use of a known technique (modifying an attribute in a virtual world based on occurrences in news as taught by Zyda) to improve similar methods (accounting for real-world time and place in the attributes of a virtual world, as taught by Reiche) in the same way (accounting for aspects of the real world in the virtual world). It also would have been no more than applying a known technique (receiving news in real time, extracting an occurrence from the news, and modifying a virtual world based on the extracted occurrence, as taught by Zyda) to a known method (Reiche's method of trying virtual attributes to real-world locations) ready for improvement to yield predictable results (increased and improved player interaction with broader world, as desired by Reiche).

**(iii) Kolo (U.S. Patent Application Publication
2012/0244945) in view of Etter (U.S. Patent No.
8,292,743)**

Kolo and Etter both teach modifying a player's in-game experience for an online game based on the player's real-world location. *See, e.g.*, Kolo, ¶73; Etter, Abstract.

Kolo discloses "several embodiments where geolocation information for a player is incorporated into a game so that the players online experience is modified based on the geolocation of the player." *Id.*, ¶75. As shown in Figure 5, Kolo discloses mapping a player's geolocation in the virtual game world relative to other players in geoproximity to the player. *Id.*, ¶¶76, 81, Fig. 5.

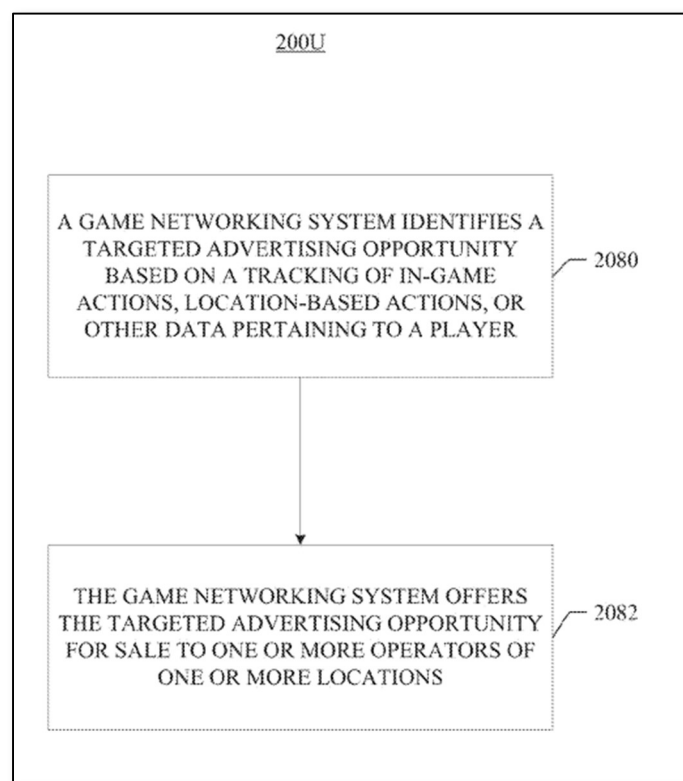


Kolo, Fig. 5

Kolo discloses numerous permutations of how the geolocation of one player, or geoproximity of two players' geolocations, may affect gameplay. For example, a player's geolocation may alter the player's character statistics such as their health. *Id.*, ¶73. As another example, "players may create custom in game items that are created based on one or more players' geolocation." *Id.*, ¶209. As another example, "the central server may identify the specific weather conditions, and when the weather conditions match predetermined characteristics, and when a player is in geoproximity to a specific geolocation, the player's in game experience is modified." *Id.*, ¶¶191-92. Players may also receive benefits or detriments when in geoproximity of other players. *E.g., id.*, ¶¶84, 100.

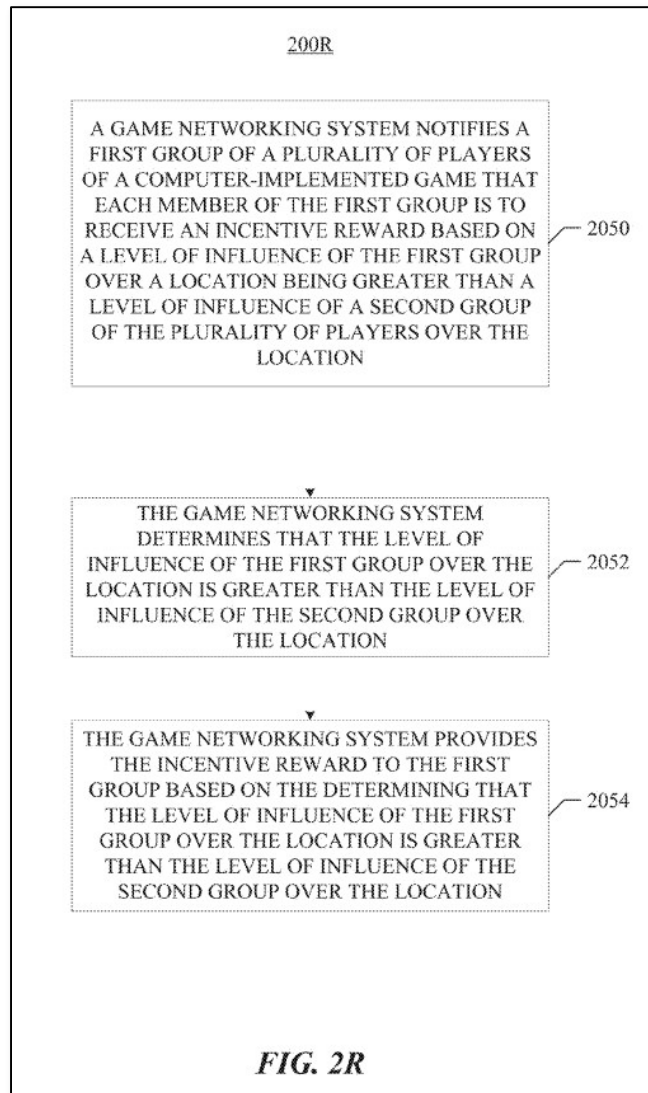
Kolo considers how its game can be monetized. Kolo explains that “by modifying the players gaming experience based on the geolocation of the player, online games may incorporate advertising means into a game.” Kolo, ¶¶74-75 (providing an example wherein a player receives an in-game health benefit or a coupon for visiting a coffeeshop).

Etter expands upon the monetization concept Kolo raises in obvious ways. First, Etter provides additional techniques for advertising real-world products and businesses in the online game. For example, Etter teaches using targeted advertising “based on a tracking of information pertaining to in-game actions, location-based actions, or other data (e.g., preference, profile, or social networking system data) associated with a player.” Etter, 41:25-40; Fig. 2U.



Etter, Fig. 2U

Etter also teaches providing “incentive rewards” based on players’ real-world location-based actions, including spending. *Id.*, 40:33-43, Fig. 2R; *see also, id.*, 10:57-59.



Etter, Fig. 2R

Etter also teaches leveraging players’ in-game and out-of-game social networks to enhance advertising and monetization. Etter discloses tracking social networks through a social networking system 120...and maintain[ing] social graphs.” *Id.*, 4:45-46. Social graph may be “managed by game networking system 120b, which is managed by the game operator” or “part of a social networking system 120c managed by a third party (e.g., Facebook, Friendster, Myspace)” or both. *Id.*, 5:19-35. An incentive reward may be generated as “an incentive reward based on information collected from a social networking system about players to whom the incentive reward is to be

offered.” *Id.*, 22:33-36. In other words, Etter discloses that the type of monetization and advertisement taught in Kolo can also account for players’ social status by giving certain or more perks or opportunities to players who have more in-game or out-of-game social connections.

A POSITA would have been motivated to use Etter’s extensive teachings regarding monetizing location-based video games to implement Kolo’s suggestion that its video game may be monetized. Doing so would have amounted to no more than combining prior art elements (Kolo’s location-based video game and Etter’s techniques for monetizing location-based video games) according to known methods (Etter’s various uses of incentive rewards) to yield predictable results (improved monetization of Kolo’s video game). It also would have merely been use of known techniques (Etter’s techniques for monetizing a location-based video game) to improve a known device/method ready for improvement (Kolo’s location-based video game that suggests that it may be monetized) to yield predictable results (improved monetization of Kolo’s video game).

(i) Kolo (U.S. Patent Application Publication 2012/0244945) in view of Zyda (U.S. Patent Application Publication 2011/0028220)

As discussed above, Kolo discloses “several embodiments where geolocation information for a player is incorporated into a game so that the players online experience is modified based on the geolocation of the player” or multiple players’ geoproximity. *See, e.g.*, Kolo, ¶¶73, 75, 84. In doing so, Kolo factors conditions of the players’ real-world location into gameplay. *See, e.g., id.* at ¶¶209 (custom in-game items based on geolocation), 191-92 (modifying game experience based on geolocation’s weather conditions). As further discussed above, Zyda discloses using “real world news of any type” to modify a virtual world. *See, e.g.*, Zyda, ¶53.

A POSITA would have been motivated to apply Zyda’s teachings regarding incorporating news of “any type” into Kolo’s game to make Kolo’s MMO feel more immersive/interactive.

Doing so would have merely expanded on the teachings already in Kolo, such as receiving current weather information from a weather source such as websites or online feeds (Kolo, ¶¶191, 338), to incorporate retrieving other current information (news) from a specific type of information source (*e.g.*, a news feed). Combining Kolo's known method of retrieving a local element script based on a geolocation (*e.g.*, weather) with Zyda's known method of extracting a news items from a news feed would yield predictable results of having a local element script accounting for news events at a location.

b. Specific Motivations to Combine Prior Art related to the '710 Patent

A Person of Skill in the Art would have been motivated to combine the prior art references discussed in Exhibits E-1 through E-13. The references identified in Exhibits E-1 through E-13 are analogous prior art to the subject matter of the asserted claims of the '710 Patent, and, for at least the reasons set forth below, are properly combinable. The references charted are either directed to the same field of endeavor as the '710 Patent, or they are reasonably pertinent to the problem faced by the inventors of the '710 Patent.

Because these prior art references exist within a single field of art, it would have been obvious for a person of skill in the art to look from one piece of prior art to another in order to find any missing functionality they desired to implement. Therefore, these references provide interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the asserted patents. For example, a POSITA looking to incorporate dynamic pricing based on user ratings with any of the other cited references could look to Anderson (*see* Ex. E-12) or Gorelik (*see* Ex. E-4).

Numerous prior art references, including those identified in the attached exhibits, reflect common knowledge and the state of the prior art before the earliest claimed effective filing date

of the '710 Patent. As it would be unduly burdensome to create detailed claim charts for all of the invalidating combinations, for at least the reasons described in these invalidity contentions, it would have been obvious to one of ordinary skill in the art to combine any of a number of prior art references, including any combination of those identified in the attached exhibits, to meet the limitations of the asserted claims of the '710 Patent. Defendant's inclusion of exemplary combinations, in view of the factors and exemplary motivations to combine identified herein, does not preclude Defendant from identifying other invalidating combinations and/or motivations as appropriate.

(i) Ganz (U.S. Patent Application Publication No. 2008/0274811 A1) in view of Anderson (U.S. Patent No. 7,739,153)

Ganz teaches a system for trading characters (e.g., virtual goods) in a virtual world. In particular, Ganz allows a user to acquire and register a virtual "character," which receive an initial set of "attributes." Ganz, ¶¶ 5, 6. The user can then "develop[] the character to have more or better skills," increasing "the overall value of the character." Ganz, ¶ 17. In the lexicon of the '710 patent, players can implicitly rate characters by training them and developing them, which increases their value when purchased. The user can then trade, sell, or auction the character for a "real-world monetary value." Ganz, ¶ 18. Ganz improves upon the prior art by disclosing methods of developing and trading virtual characters with other online users, satisfying users' desire for "more interactive capabilities and more flexibility with respect to their online or virtual reality products." Ganz, ¶ 4. For example, if a player does not want to train a character themselves, they can rely on other players to develop that character and purchase it when desired. *Id.*, 4, 18. While Ganz teaches dynamic pricing of a user's virtual character based on the character's skills or based upon "current and projected popularity of and demand for the character," it does not disclose specific methods to assess such popularity or demand. Ganz, ¶ 43.

Indeed, popularity and demand are subjective concepts that can prove difficult to quantify. A POSITA seeking to implement the system of Ganz for trading of virtual goods with dynamic pricing would have looked for a quantifiable way to assess the popularity and demand of an item, particularly a method that provide additional “interactive capabilities” for users, as Ganz emphasized. Ganz, ¶ 4. Anderson, in the same field of endeavor as the ’710 patent and Ganz, teaches such a method. Like the ’710 patent and Ganz, Anderson recognized the need to price goods dynamically based upon the popularity of the item. Anderson, Abstract, 14:11-15. But Anderson discloses a method that improves the solution of Ganz by implementing a specific process for dynamic pricing: adjusting virtual goods prices based on user ratings. Anderson, 1:52-55. The user ratings of Anderson are a concrete and measurable way to quantify the popularity and demand that Ganz contemplated, and their collection and incorporation provide additional interactive capabilities for users, further enhancing the benefits provided by the Ganz system.

A POSITA seeking to solve the problem of dynamic pricing in the trading of virtual goods would have found it obvious to combine the teachings of Ganz with Anderson, using user ratings to inform the dynamic pricing of the goods. Furthermore, a POSITA would have looked to Anderson for additional benefits, such as the ability to implement dynamic pricing while preventing rating fraud. Anderson, 6:12-21. Specifically, Anderson teaches checking “if a user has rated more than a predetermined number of content items by a particular producer within a set time period,” which could indicate an attempt to artificially boost a friend’s product values. Anderson, 6:12-21. This additional benefit would further motivate a POSITA to combine Anderson with Ganz.

A POSITA would have had a reasonable expectation of success in combining the references because both solutions involve the trading or sale of virtual goods with dynamic pricing

in a software or hardware-based system, and combining the teachings of Anderson would have merely involved modifying Ganz's dynamic pricing algorithm to incorporate the user ratings of Anderson. Anderson teaches that individual user ratings can be combined to establish an "aggregate rating." Anderson, 5:16-18. This aggregate rating could readily be inserted either in place of Ganz's character skill metrics, or as an additional data point in the calculation of Ganz's "overall value for the character." Such a modification would have been well within the capability of a POSITA.

In addition, doing so would have been no more than combining prior art elements (Ganz's trading system for virtual goods using dynamic pricing and Anderson's user rating solution for quantifying demand and popularity) according to known methods (modifying the pricing algorithm to incorporate user ratings) to yield predictable results (improved dynamic pricing that accounts for popularity and demand and adds more interactive capabilities). It also would have been no more than use of a known technique (Anderson's use of user ratings to inform dynamic pricing) to improve similar methods (Ganz's solution for trading virtual goods using dynamic pricing) in the same way (improving Ganz's dynamic pricing technique by incorporating user ratings).

(ii) Huang (U.S. Patent Application Publication No. 2009/0216546 A1) in view of Anderson (U.S. 7,739,153)

Huang teaches a rating system for virtual world artifacts (e.g., "virtual goods") in a virtual world or e-commerce setting (e.g., for trading or purchasing). Huang, Abstract. The system of Huang contemplates the purchase of the virtual artifacts in the virtual world. Huang, ¶ 30. The rating system of Huang captures user ratings of virtual artifacts by tracking user behavior, including the behavior of virtual avatars that users control within the virtual world. Huang, ¶ 8. As users interact with a virtual artifact, the Huang system tracks those interactions, including (1) "movement of the avatar within a pre-determined distance from the virtual world artifact," (2) "the

touching of the virtual world artifact by the avatar,” (3) “a reference to the virtual world artifact by the avatar in a monitored conversation,” and (4) “a purchase transaction of a virtual world artifact from a virtual world store by the avatar.” Huang, ¶ 31. Each of these interaction types corresponds to a “rating score,” which can be weighted differently for different interaction types, accounting for the degree of user interaction. Huang, ¶ 57. The system of Huang then uses these interactions to calculate a “popularity rating score” for a virtual world artifact. Huang, ¶ 33. This popularity rating score can be used “as a factor in determining how (and if) the virtual world artifacts are presented in the virtual world” or e-commerce platform. Huang, ¶ 63. In other words, like the ’710 patent, Huang provides a mechanism to make products available for trading or purchase at an initial price, and for capturing product ratings from other users and calculating an overall rating score based upon the user ratings.

However, although Huang discloses an e-commerce system that incorporates product ratings, it does not teach how to price virtual artifacts in the virtual world. A POSITA looking to implement an e-commerce system according to Huang would be motivated to look for a solution that teaches how to price virtual artifacts—particularly, a solution that incorporated the product ratings of the Huang system.

Anderson, in the same field of endeavor as the ’710 patent and Huang, solves this problem. Anderson, like Huang and the ’710 patent, is intended for use in a virtual environment, in which users can purchase virtual goods at a listed price. Anderson, 14:54-55. Like the ’710 patent, Anderson recognized the need to price such goods dynamically based upon the goods’ user ratings. Anderson, Abstract, 14:11-15. In particular, Anderson teaches the use of adjusting an item’s base price based on the item’s popularity and “overall user rating,” which is calculated using individual user ratings. Anderson, 11:19-22, 12:34-36. While the virtual goods primarily discussed in

Anderson comprise video content, Anderson is clear that, “although the example below discusses video sharing, the principles are applicable to any other suitable type(s) of content, as well.” Anderson, 14:20-22.

A POSITA would have no challenge integrating the dynamic pricing of Anderson into the Huang system. As described above, the Huang system involves a virtual world or e-commerce platform selling virtual goods. It collects user ratings and calculates an overall rating score for each virtual good based on user interactions with the virtual good. Anderson teaches a pricing technique for virtual goods that dynamically adjusts the goods’ price based on an overall rating score. A POSITA seeking to incorporate the dynamic pricing of Anderson into the Huang system could simply feed the overall product rating score of Huang into the pricing model of Anderson, which would use the Huang overall rating score to adjust the item’s price. This price could then be passed back from the Anderson model to the Huang e-commerce system, which would list the virtual good using the Anderson-generated price. Further, when an item was sold, the Huang system would record the transaction event, feeding the event score back into its overall product rating.

In addition, Anderson’s dynamic pricing would be even more powerful when combined with Huang’s teachings regarding product placement. As described above, the Huang system uses the product’s overall rating score to determine the placement or rendering of the product in the e-commerce platform—for example, positioning highly-rated products more prominently. Huang, ¶ 8. Accordingly, the combination of Huang and Anderson would result in a system in which popular items were featured prominently within the e-commerce platform according to Huang to attract further attention and listed with a higher price according to Anderson to reflect the item’s popularity. This combination would result in the most popular products being sold more frequently

and at higher prices, creating additional revenue for the seller and presumably the e-commerce platform.

For at least the reasons described above, a POSITA seeking a solution for pricing virtual goods using user ratings would have found it obvious to combine the teachings of Huang with Anderson, using Huang's user ratings to inform Anderson's dynamic pricing of the goods.

In addition, doing so would have been no more than combining prior art elements (Huang's e-commerce system for virtual goods that captures user ratings and Anderson's solution for dynamically pricing goods according to user ratings) according to known methods (using Huang's product rating score as the rating score for Anderson's dynamic pricing) to yield predictable results (dynamic pricing of virtual goods in a virtual environment). It also would have been no more than use of a known technique (Anderson's use of user ratings to inform dynamic pricing) to improve similar methods (Huang's solution for selling virtual goods using user ratings) in the same way (improving Huang's e-commerce platform by incorporating dynamic pricing).

(iii) Alewine (U.S. Patent Application Publication No. 2010/0138455 A1) in view of Gorelik (U.S. Patent No. 7,970,713 B1)

Alewine teaches a system that facilitates the user rating of virtual goods in a virtual world in order to classify the content of the virtual goods. Alewine, Abstract. Alewine teaches that stores in a virtual universe may sell virtual items or objects. Alewine, ¶ 28. Alewine further teaches that these virtual items must be tagged with an "initial rating," which could be "assigned by the creator or introducer of an object." Alewine, ¶ 38. Avatars in the virtual universe could then purchase these virtual items and store them in the avatar's inventory. Alewine, ¶ 28. Beyond the setting of an initial rating, Alewine teaches a system in which "every avatar in a given virtual world" can "rate objects and content." Alewine, ¶ 37. These ratings are stored in a "centralized object tagging database," and the Alewine system would use the "aggregate data set . . . to update the relational

database . . . with the latest rating consensus for a given object or content.” Alewine, ¶ 37. These ratings or classifications are used, in one example, to identify a segment of users for which the virtual goods are appropriate. Alewine, ¶ 20. In other words, Alewine provides a system for selling virtual goods in a virtual world, in which the goods are assigned an overall rating and classification based on the consensus of user ratings for that good.

However, Alewine does not disclose a method for pricing such virtual goods. Therefore, a POSITA seeking to implement a system for trading or selling virtual goods according to Alewine would be motivated to identify a solution to price the virtual goods, especially one that incorporated user ratings, and Alewine’s object classification system to tailor products to particular user segments. Gorelik teaches such a pricing model. In particular, Gorelik discloses an “automatic pricing method and apparatus for use in electronic commerce environments” that “measure[s] demand for specific products—taking into account, where appropriate, a vendor selected segmentation scheme.” Gorelik, 2:48-58. Gorelik further provides that this “segmentation scheme” can be used to “differentiate[] between different types of customers.” Gorelik, 2:53-55. According to Gorelik, “the customer segments 306 may be defined according to the system used by the customer, e.g., from clustering or other data analysis techniques.” Gorelik, 4:50-52. Gorelik’s automatic pricing method first identifies an “initial, or given, price for a pricing unit.” Gorelik, 10:23-26. The system then tests the initial price to “evaluate the look to buy (L2B) ratio for the pricing unit.” If the L2B ratio for a new price proves better than for the initial price, the system identifies the new price as the new initial price, continuing to iterate towards an optimal price. *See* Gorelik, 10:53-59. In other words, the Gorelik system captures user ratings of a product based on whether, after viewing the product, they consummate a purchase. These individual ratings are aggregated into an overall rating: the “look to buy (L2B) ratio” for the product. The Gorelik system

then dynamically adjusts prices to test various prices and optimize the vendor's goal (e.g., profit). Gorelik, 3:1-3.

Combining these references would be well within the capabilities of a POSITA. For example, as discussed above, Alewine describes a method of capturing user ratings for virtual goods and aggregating them to establish a consensus rating. Alewine further teaches that these virtual goods can be sold in a virtual universe. Gorelik likewise teaches a system for the sale of virtual goods online, including a method for testing various prices with different market segments and using aggregated ratings to adjust prices. The Gorelik system requires vendor identification of customer segments on which to test various prices, and so a POSITA could use the Alewine system to establish customer segments to be used in its price testing. As Gorelik expressly teaches the use of customer segments in its price testing, the customer segments from Alewine could be readily incorporated into the Gorelik system to identify optimal pricing for each customer segment. The combined system could further exclude customer segments for which a particular product was inappropriate, according to the user classification obtained from the Alewine system. Finally, the optimal prices identified using the Gorelik system would be used to list the products in the virtual world of Alewine.

A POSITA would have been motivated to combine the Alewine system with the teachings of Gorelik for several reasons. First, as discussed above, Alewine does not disclose a mechanism for pricing virtual goods listed for sale in a virtual world. While it does provide a method for assigning a classification to the good based on aggregated user ratings, and segmentation of users based upon the classification, a POSITA seeking to implement a system for selling virtual goods would look to Gorelik to provide a mechanism for dynamic pricing that could incorporate the user

segmentation of Alewine. Moreover, a POSITA looking to sell virtual goods would likely seek to optimize the pricing of the virtual goods to maximize profit, which Gorelik expressly discloses.

This combination would have been obvious to a POSITA because it would have involved no more than combining prior art elements (Alewine's system for rating and categorizing virtual goods according to appropriate customer segments and Gorelik's solution for dynamically pricing goods) according to known methods (segmenting Gorelik's price testing according to the customer segments of Alewine) to yield predictable results (dynamic pricing of virtual goods for particular customer segments). It also would have been no more than use of a known technique (Gorelik's dynamic pricing model) to improve similar methods (Alewine's solution for selling and categorizing virtual goods based on user ratings) in the same way (improving Alewine's virtual universe of virtual goods by incorporating dynamic pricing).

**(iv) WoW Auction House in view of Rowan (U.S. Patent
Application Publication No. 2008/0147424 A1)
Anderson (U.S. Patent No. 7,739,153)**

WoW Auction House provides a platform for trading virtual goods within the World of Warcraft game. Among other features, WoW Auction House allows a user to list a virtual good for auction. The WoW Auction House system suggests a default selling price. The seller can use this price or set a different starting value as a "buyout" price, for which a buyer could purchase the item without going through the auction process. When listing an item, a seller can also choose a minimum bid amount for the auction. The WoW Auction House allows buyers to place bids at a particular price, which adjusts the price for the auction. Other players can submit additional bids, which further adjust the price. The buyer purchases the item if the buyer wins the auction or if the buyer opts to purchase the item at the buyout price. In short, WoW Auction House provides a trading platform for the purchase and sale of virtual goods via either an auction process or a traditional purchase for a listed price.

Although WoW Auction House teaches the use of ratings in the context of bidding for auction items, it does not disclose the ability to explicitly rate items in the course of gameplay. Rowan, however, discloses a multiplayer computer game environment involving the explicit rating of items within the virtual environment. It is specifically designed to be combined with multiplayer computer game platforms, such as World of Warcraft, to add a ratings system for items within the game. The Rowan system presents user interface (“UI”) elements that can be either overlaid onto the UI of the base computer game or integrated into the game UI itself. These UI elements display a current aggregate rating for each item, and allow users to submit new ratings for the item. A POSITA would have been able to combine these references, at least because Rowan is specifically designed for combination with World of Warcraft. Indeed, the overlay features fit seamlessly within the game to augment the user’s experience.

A POSITA looking to fully integrate the rating system of Rowan into the trading platform of WoW Auction House would be further motivated to take advantage of these user ratings, for instance, by incorporating user ratings to display a dynamic pricing system for the sale of virtual goods. In this way, a POSITA would understand they could use user ratings to identify prices for items that more accurately represent what users are willing to pay. For this, a POSITA would be motivated to further combine the systems of WoW Auction House and Rowan with the teachings of Anderson. Indeed, Anderson discloses a micropayment system that identifies a “base price...based on the number of views of an item,” which can then be adjusted “based on user ratings for the data item.” Anderson, 1:51-62.

Anderson is also intended for use in a virtual environment, in which users can purchase virtual goods at a listed price. Anderson, 14:54-55. Like the ’710 patent, Anderson recognized the need to price such goods dynamically based upon the goods’ user ratings. Anderson, Abstract,

14:11-15. In particular, Anderson teaches the use of adjusting an item's base price based on the item's popularity and "overall user rating," which is calculated using individual user ratings. Anderson, 11:19-22, 12:34-36. While the virtual goods primarily discussed in Anderson comprise video content, Anderson is clear that, "although the example below discusses video sharing, the principles are applicable to any other suitable type(s) of content, as well." Anderson, 14:20-22.

A POSITA would have been able to combine Anderson with the WoW Auction House and Rowan. For example, a POSITA could begin with the trading environment and virtual world of WoW Auction House. As discussed above, the rating system of Rowan was system by feeding the aggregated item ratings of Rowan into the pricing model of Anderson. And the combination would provide increased benefit, because it would allow users to provide ratings within the game environment of World of Warcraft, which would then feed into the Anderson pricing model to provide adjusted pricing. These dynamic prices from Anderson, based on the ratings of Rowan, could then be used in WoW Auction House as the default prices suggested to users listing items for sale in the WoW Auction House.

This combination would have been obvious to a POSITA because it would have involved no more than combining prior art elements (WoW Auction House's system for rating trading virtual goods, Rowan's system for soliciting and aggregating user ratings, and Anderson's system for dynamically adjusting prices based on user ratings) according to known methods (adding the UI of Rowan to WoW Auction House, and providing the aggregated ratings of Rowan to the pricing model of Anderson) to yield predictable results (dynamic pricing of virtual goods in WoW Auction House based on user ratings obtained in the game). It also would have been no more than use of a known technique (Rowan's ratings UI and Anderson's dynamic pricing model) to improve similar methods (WoW Auction House's solution for trading virtual goods in a virtual

environment) in the same way (improving WoW Auction House's virtual goods trading by incorporating dynamic pricing based on user ratings).

c. Specific Motivations to Combine Prior Art related to the '592 Patent

A Person of Skill in the Art would have been motivated to combine the prior art references discussed in Exhibits F-1 through F-10. The references identified in Exhibits F-1 through F-10 are analogous prior art to the subject matter of the asserted claims of the '592 Patent, and, for at least the reasons set forth below, are properly combinable. The references charted are either directed to the same field of endeavor as the '592 Patent, or they are reasonably pertinent to the problem faced by the inventors of the Location Patents.

Because these prior art references exist within a single field of art, it would have been obvious for a person of skill in the art to look from one piece of prior art to another in order to find any missing functionality they desired to implement. Therefore, these references provide interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the asserted patents.

Numerous prior art references, including those identified in the attached exhibits, reflect common knowledge and the state of the prior art before the earliest claimed effective filing date of the '592 Patent. As it would be unduly burdensome to create detailed claim charts for all of the invalidating combinations, for at least the reasons described in these invalidity contentions, it would have been obvious to one of ordinary skill in the art to combine any of a number of prior art references, including any combination of those identified in the attached exhibits, to meet the limitations of the asserted claims of the '592 Patent. Defendant's inclusion of exemplary combinations, in view of the factors and exemplary motivations to combine identified herein, does

not preclude Defendant from identifying other invalidating combinations and/or motivations as appropriate.

(i) Reiche (U.S. Patent Application Publication No. 2011/0028220) in view of Shadow Cities

Reiche utilizes a player's real-world location to further game play in a video game. Reiche explains that a "disadvantage of [prior art] video games is a lack of interaction with the broader physical world." Reiche, ¶2. Reiche discloses a variety of ways to overcome this disadvantage. Reiche teaches that a player's physical location can be used to generate storylines tied to the player's geolocation, for example, "game play ownership of real property" at the player's location or introducing "entity such as a game character or an item" at the location. *E.g.*, Reiche, ¶22. Reiche also discloses that a player may interact with other players, *e.g.*, by purchasing real property before they do, *id.*, ¶¶24, 31, or battling with other players, *id.*, ¶¶40, 45. Reiche discloses an improvement over the prior art because it drives further interaction with the broader physical world (*i.e.*, based on both player physical location and the physical location of other players). Although Reiche discloses multiplayer aspects of its invention, it does not consider problems that may arise if there are either not enough or too many players attempting to interact in a game at a player's physical location.

Shadow Cities is in the same field of endeavor as the '592 Patent and Reiche. In Shadow Cities, as in Reiche, virtual locations can correspond to physical locations. *See, e.g.*, "Chapter 1: About Shadow Cities," shadowcities.com, archived on May 10, 2012, <https://web.archive.org/web/20120510042102/http://www.shadowcities.com/help/about> ("Shadow Cities is an award winning global location based game that turns your city into a magical battleground"; "Every city in the world is filled with magical enemies to be defeated so you can earn experience and collect energy."); *see also, e.g.*, Reiche, ¶¶22-24, 31. As some gamers may

have observed while playing Shadow Cities: “If players lived in a densely populated city, where there are more likely to be other players around them, they would continuously encounter other players. But if they lived in a small city, town, or rural location, it would be a much more solitary experience.” Leorke, Dale, “Location-Based Gaming: Play in Public Space,” Centre of Excellence in Game Culture Studies, University of Tampere, 2019. Accordingly, a POSITA would have understood that Reiche may face the same problem identified in Shadow Cities, namely that there are too few or too many players at a given location such that game play is negatively impacted, and a POSITA would have been motivated to look to Shadow Cities for a solution.

In the case where there are not enough players at a virtual location corresponding to a physical location, Shadow Cities teaches that “players who lived in an isolated area could use the warp feature to temporarily play in a populated location.” *Id.* In other words, Shadow Cities players may warp to a secondary location to play with friends who are in that secondary location. Specifically:

“The world of Shadow Cities is a reflection of the real world. When you move in the real world, you also move in the game.

However, there is another way to move around that is just not possible in the real world. In Shadow Cities you summon Beacons, allowing your friends to jump to your location. For example, if you are located in Los Angeles and you have a friend in New York, he or she can open a Beacon in New York, allowing you to battle in Brooklyn or Manhattan.

Besides jumping between Beacons you can also use the Warp spell to warp to friendly targets that are visible to you on your map: Dominators, Catchers, Wards, Gateways, Beacons, and friendly players.”

“Chapter 3: Habits of Effective Mages,” shadowcities.com, archived on April 23, 2012, https://web.archive.org/web/20120423014818/http://www.shadowcities.com/help/my_missions/.

In this way, a player may also warp to a less densely populated area if their friend summoned a beacon to that location.

A POSITA would have been motivated to apply these techniques to Reiche to drive multiplayer engagement in instances where too few or too many players are at a location. Doing so would have improved upon Reiche's goal of furthering video game interaction with the broader physical world by facilitating multiplayer game play (interaction with the broader physical world via interaction with other people) while at the same time allowing for meaningful game play even if there are too few or too many players at a particular physical location to allow for the intended multiplayer functions taught in Reiche. A POSITA would have had a reasonable expectation of success in doing so because it would have merely involved either modifying how a player's location corresponds to their virtual location, or generating additional virtual resources, both of which would have been well within the capability of a POSITA.

In addition, doing so would have been no more than combining prior art elements (Reiche's multiplayer video game that associates attributes based on a player's location with the player's character and Shadow Cities' solution for sub-optimal multiplayer population density in a location-based video game) according to known methods (creating a way to join together teams of players from different geolocations when there are not enough players in a physical location) to yield predictable results (improved multiplayer game play in a game that normally associates attributes with player characters based on a player's physical location). It also would have been no more than use of a known technique (Shadow Cities' allowance of players to engage at in battle at a second geolocation) to improve similar methods (Reiche's use of player location in video games) in the same way (improving multiplayer game play when there are not enough players at a given location).

Having combined the teachings of Reiche and Shadow Cities, a POSITA would have further observed that a key element of Shadow Cities' gameplay is hunting and catching non-player characters ("NPCs"), dubbed "spirits," that are introduced at a geolocation. *See, e.g.,* "Help," shadowcities.com, archived on November 20, 2010 <https://web.archive.org/web/20101120184501/http://www.shadowcities.com/help> ("Hunting[] Spirits is one of the main tasks in Shadow Cities. You see Spirits appear on the screen sporadically in different locations. The more time you spend playing, the more Spirits you will encounter."); *see also id.* ("The more you play and catch spirits, the more experience you gain and Level Up."). The more time spent playing Shadow Cities, the more NPCs are introduced to the game. Reiche also incorporates NPCs into its gameplay. *See, e.g.,* Reiche, ¶¶15 (game entities encountered at a location may include a "monster or other character"), 45 ("the monster entity may attack automatically without input from the player"). A POSITA would have been motivated to introduce Shadow Cities' teachings (to add a storyline centered on catching NPCs and/or to introduce more NPCs the more a player engages with the game) to Reiche in order to enhance gameplay (via introducing additional plots) and drive user engagement (by encouraging them to spend more time playing the game in order to encounter more NPCs).

(ii) Reiche and Shadow Cities in view of Turf Wars

A POSITA would have been motivated to combine the teachings of Reiche and Shadow Cities as discussed above. Turf Wars is in the same field of endeavor as the '592 Patent, Reiche, and Shadow Cities. "Turf Wars is a location-based, massively multiplayer mafia game for the iPhone and iPod Touch. It shares several characteristics with the mafia-style social games found on social networks and the iPhone, with the addition of real-world 'turf' that players can claim and defend." TurfWarsApp.com, "Turf Wars Overview & Assets," available at <https://turf warsapp.com/assets>, archived on March 15, 2012 at

<https://web.archive.org/web/20120315051925/https://turf warsapp.com/assets>. As part of gameplay, Turf Wars tracks the density of players at a given location. For example, “As Turf is accumulated, players increase their ‘influence’. Influence is attached to Turf and determines how much a given piece of Turf will earn. The greater the population within a piece of Turf, the greater the influence.” IGN Staff, “Introducing Turf Wars, the Free, GPS-based Crime Game for Apple iPhone,” originally posted December 7, 2009, <https://www.ign.com/articles/2009/12/07/introducing-turf-wars-the-free-gps-based-crime-game-for-apple-iphone>. For another example, “[t]he user interface 600E may include a first region (e.g., a ‘Trending Now’ region) for accessing information about popular locations (e.g., locations where players have recently performed jobs, turf wars have recently been waged, a large number of jobs have been performed, or a large number of turf wars have been waged).” U.S. Patent No. 8,292,743 at 50:10-24, Fig. 3.

As discussed above, a POSITA would have been motivated to combine Reiche’s and Shadow Cities’ teachings to improve gameplay by allowing gamers to play at more densely populated locations. A POSITA looking to further improve gameplay by letting players interact with more densely populated areas as taught by Shadow Cities in the Reiche-Shadow Cities combination would have been motivated to implement Turf Wars’ teachings of altering an aspect of the game based on a location’s popularity. For example, once a player has warped to a more populous area (taught by Shadow Cities), it would have been obvious to make gameplay a richer experience at that more popular location (taught by Turf wars) by introducing more NPCs at such densely populated locations. This would achieve the predictable result of further enhancing gameplay and user engagement.

(iii) U.S. 8,675,017 B2 (“Rose”) in view of Parallel Kingdom

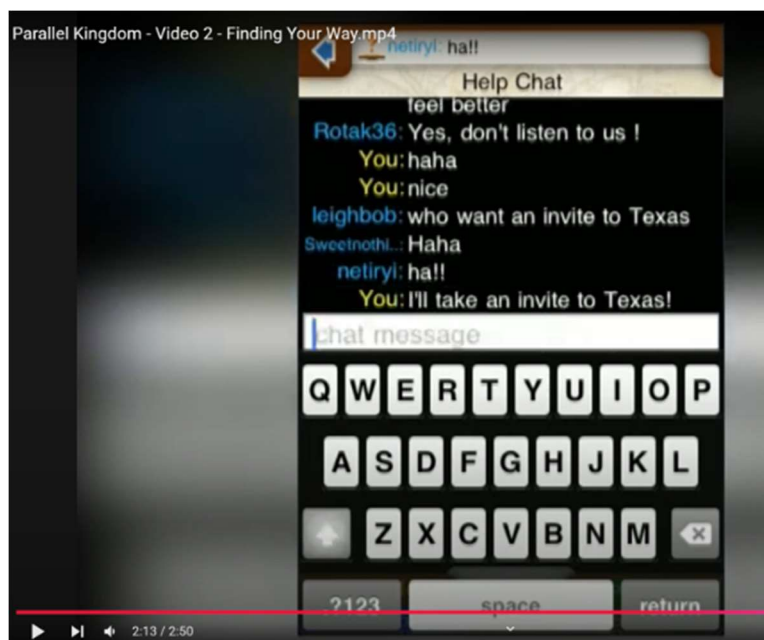
Rose discloses a method of mapping features of a real environment into a virtual environment for multi-player mobile gaming. *See, e.g.*, Rose at Abstract, 1:62-66, 8:56-63. Players’ movements are tracked in the real world and mapped in the game world, and multiple players interact through their virtual characters via fighting, cooperating, trading, and competing in the gaming landscape. *See, e.g., id.* at 2:4-11, 2:16-29, 7:61-69. Rose teaches that “[a]s the player 108 travels in the real environment, the virtual interactive game operating on the mobile device may inform the player 108 of challenges, treasures, opponents, etc. For example, the virtual environment 110 may show other players who are in the vicinity.” *Id.*, 6:30-42. In addition to playing against “other players who are in the vicinity[,]” however, if different real environments are “sufficiently similar,” they can be mapped to the same virtual environment such that players in different geolocations can play with and/or against each other. *Id.*, 7:21-37:

“In some implementations, different real environments may be mapped to the same virtual environment, thereby allowing players in the different real environments to play with and/or against each other. For example, two different parks in different cities may be sufficiently similar that they can be mapped into the same virtual environment. This may permit forming teams in which the teammates are located in different locations. In some instances teams that are geographically separated may cooperate in tasks where a first team performs some action to enable a second team to proceed to a second task. For example, team A in San Diego has to find a magic scroll and read the incantation on it (e.g., teammates of team A may assemble on a particular location of a real environment to read or decipher the incantation) which is then sent (e.g., via electronic communication channels) to team B in Sydney which gets instructions as to where to go next.”

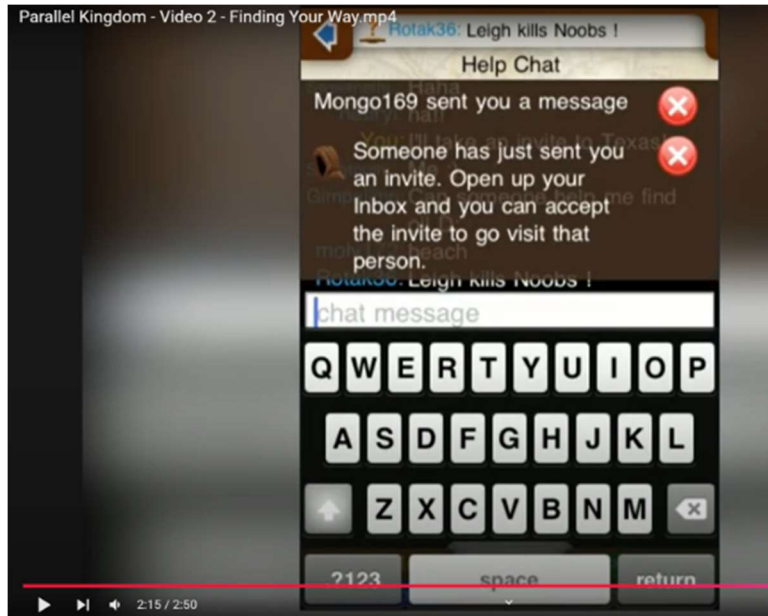
Thus, Rose teaches that players may play together from different locations if they’re at sufficiently similar locations (and get mapped to the same virtual environment) or if they are completing in-game tasks or quests across multiple different locations. Rose is not clear, however,

on what happens if a first player wishes to play from their geolocation at a virtual environment representing the second player's geolocation.

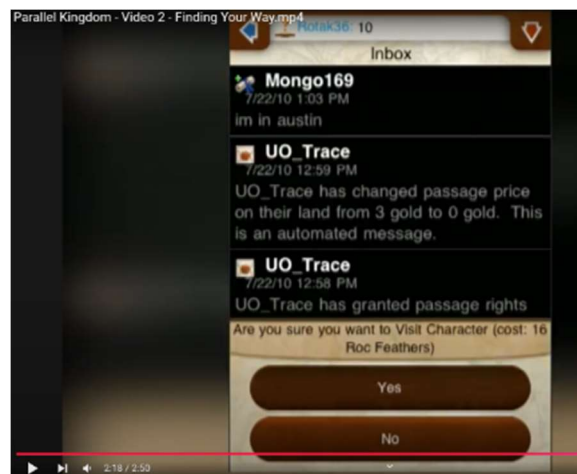
Parallel Kingdom is in the same field of endeavor as the '592 Patent and Rose. Parallel Kingdom is a GPS-based MMORPG for mobile devices that uses players' actual locations for the fantasy world's game map. *See, e.g.*, G. Roush, Parallel Kingdom First Look, IGN, Nov. 4, 2008, <https://www.ign.com/articles/2008/11/04/parallel-kingdom-first-look>. Although the player's real-world location is a critical component of gameplay, Parallel Kingdom also offers another feature whereby if another player enters the game from a second geolocation, then a new storyline is opened for the first player's character, who may now play at that second geolocation if invited by the second player. An illustration of this feature is provided below from Parallel Kingdom – Video 2 – Finding Your Way.mp4, PerBlueInc, Aug. 24, 2010, <https://www.youtube.com/watch?v=FkjBNcysw70> (“Finding Your Way”):



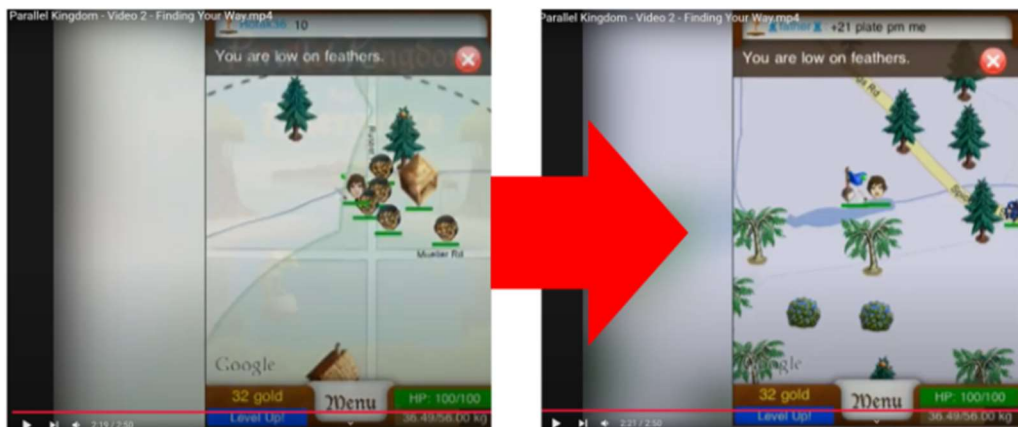
Finding Your Way, at 2:13.



Finding Your Way, at 2:15.



Finding Your Way, at 2:18.



Finding Your Way, at 2:21 (red arrow added).

Thus, a POSITA who was contemplating the gameplay of Rose would have been motivated to improve Rose in combination with the teachings of Parallel Kingdom in order to open up further potential avenues of gameplay for users. The known methods of Rose (teaching that two players at similar geolocations can play at the same mapped virtual location and/or that players may participate in games that involves completing tasks at multiple different locations) and Parallel Kingdoms (allowing a player to virtually jump from their geolocation to the geolocation of a second player as that player joins the game and invites the first player's participation) would be predictably combined to further enhance gameplay by providing players even more ways to interact and explore new virtual territories. Indeed, the technology discussed in both Rose and Parallel Kingdoms is compatible, given that both contemplate being able to detect a user's location and then merely adapt gameplay functionality based on that location; thus, this would have been a simple combination for a POSITA, combining known elements into a single system.

d. Specific Motivations to Combine Prior Art related to the '746 Patent

A Person of Skill in the Art would have been motivated to combine the prior art references discussed in Exhibits G-1 through G-10. The references identified in Exhibits G-1 through G-10 are analogous prior art to the subject matter of the asserted claims of the '746 Patent, and, for at least the reasons set forth below, are properly combinable. The references charted are either directed to the same field of endeavor as the '746 Patent, or they are reasonably pertinent to the problem faced by the inventors of the Location Patents.

Because these prior art references exist within a single field of art, it would have been obvious for a person of skill in the art to look from one piece of prior art to another in order to find any missing functionality they desired to implement. Therefore, these references provide

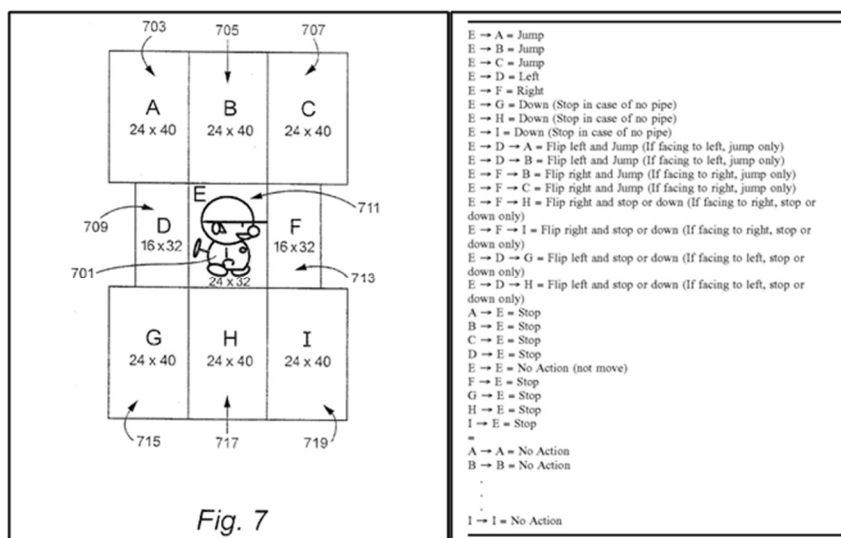
interrelated teachings and one of ordinary skill would look to the concepts in any of these references when seeking to solve the problems purportedly addressed by the asserted patents.

Numerous prior art references, including those identified in the attached exhibits, reflect common knowledge and the state of the prior art before the earliest claimed effective filing date of the '746 Patent. As it would be unduly burdensome to create detailed claim charts for all of the invalidating combinations, for at least the reasons described in these invalidity contentions, it would have been obvious to one of ordinary skill in the art to combine any of a number of prior art references, including any combination of those identified in the attached exhibits, to meet the limitations of the asserted claims of the '746 Patent. Defendant's inclusion of exemplary combinations, in view of the factors and exemplary motivations to combine identified herein, does not preclude Defendant from identifying other invalidating combinations and/or motivations as appropriate.

(i) Shimura (U.S. Patent Application Publication No. 2007/0265081 A1) in view of Plitcha (U.S. Patent Application Publication No. 2013/0120279 A1)

Shimura, just as the '746 patent, is directed to touch controls for a game character. *Compare* Shimura, Title (“Touch-controlled game character motion providing dynamically-positioned virtual control pad”) *with* '746 patent, Abstract. In Shimura, a user controls a game character that is standing on a virtual platform using stylus or touch controls. Shimura, ¶6 (“Needs exist for stylus based control that are as easy to use as joystick control of a digital object in a virtual gamespace.”), ¶52 (“System P desirably translates touching contact (e.g., strokes from one point to another) with touch screen 13 to a command that controls the direction and/or other characteristics of the motion of character 201.”). Shimura discloses that a plurality of virtual zones can be defined around an initial stylus contact point and that movement of the stylus into any one

or more of the virtual zones is associated with a game action for the character. *Id.*, FIG. 7 (reproduced below), ¶¶56, 64.



Shimura identifies a finite number of possible gestures and corresponding actions for the game character (e.g., “E→A = Jump”). *See id.*, ¶64. Shimura does not intend to be limited to the exact gestures and actions that are disclosed and recognizes that other and additional gestures would be desirable. *See id.*, ¶64 (“While these actions and patterns are described with respect to an exemplary implementation, any number of suitable states and transitions may be added to provide for any suitable actions or a series of actions.”).

A POSITA would have turned to Plitcha’s teachings regarding developing (and then recognizing) new custom touch gestures, based at least on Shimura’s own suggestions. *See, e.g.*, Plitcha, ¶¶4-5. A POSITA would have been motivated to combine Shimura with Plitcha because improving Shimura’s platform game to develop and recognize additional gestures and actions, as enabled by Plitcha, would enable more dynamic and entertaining gameplay. Indeed, a POSITA would have understood Plitcha and Shimura have compatible teachings, including because they both discuss the use of a touch panel and receiving touch-gesture inputs (from a stylus, finger, etc.). Shimura, [0006] (“Even though stylus based portable devices exist, additional improvements

allowing the player to experience the benefits a stylus could provide in a video game system would be beneficial”), Fig. 1A; Plitcha, ¶[0001] (“Touch gesture technology generally consists of a touch-enabled device such as a touch-sensitive display device (computer display, screen, table, wall, etc.), touchpad, tablet, etc., as well as software that recognizes multiple, substantially simultaneous touch points on the surface of the touch-enabled device.”). Both Shimura and Plitcha are focused on improving video game technology by incorporating touch gestures. Shimura, [0006] (“Even though stylus based portable devices exist, additional improvements allowing the player to experience the benefits a stylus could provide in a video game system would be beneficial.”); Plitcha, [0077] (“In different embodiments, computer system 700 may be any of various types of devices, including . . . video game console, handheld video game device, application server, storage device[.]”).

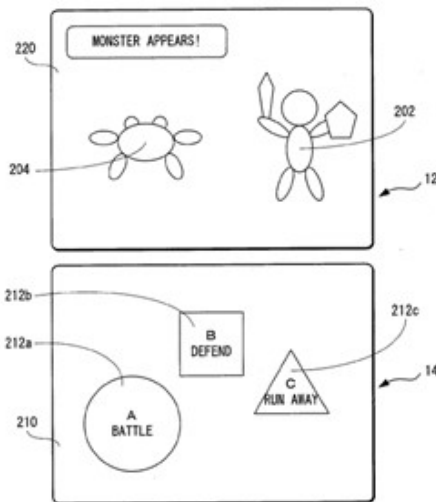
In particular, Plitcha discloses gesture development tools and gesture classification modules that facilitate the development and recognition of new touch gestures. Plitcha, Abstract, ¶¶4-5. In various examples, a user (e.g., a game developer) can input a new touch gesture, and Plitcha’s system extracts defining characteristics of the new touch gesture and stores those defining characteristics to be referenced later. *Id.*, ¶¶49, 54, Fig. 1 (teaching “gesture store 112”). Plitcha discloses that gesture classification (e.g., for “recogniz[ing] new touch gestures and determin[ing] associated commands or actions to execute in response to receiving a new touch gesture”) can be implemented or embedded into a software application. *Id.*, ¶¶59-60 (“Embodiments of a touch gesture classification method, which may be implemented as or in a tool, module, plug-in, stand-alone application, etc., may translate touch gestures applied by a user to the interface of a software application to commands that are executable by the software application.”).

Plitcha and Shimura both belong to the same field of endeavor as the '746 patent, as both generally relate to implementing touch gestures for software applications. A POSITA also would have had a reasonable expectation of success combining Shimura and Plitcha, for example, at least based on Plitcha's teaching of providing gesture development and recognition as a tool or module that can be easily incorporated within or interfaced with any software application. *See id.*, ¶59. Adding modules within a software application such as a video game would have been well within the capability of a POSITA.

(ii) Tahara (U.S. Patent Application Publication No. 2005/0227762 A1) in view of Lemort (U.S. Patent Application Publication No. 2010/0020025 A1)

Tahara belongs to the same field of endeavor as the '746 patent, i.e., touch-based video game systems; the systems disclosed by Tahara include a touch panel where "an operation button corresponding to each player character is set." Tahara, Abstract. Tahara is directed to allowing the customization of the placement of operation buttons on the touch panel. *See, e.g., id.*, FIG. 10, ¶¶6, 8, 10, 163. These movable touch buttons are tied to character actions in the video game. *See, e.g., id.*, FIGs. 14, 21-25. As part of the customization of a game's touch buttons, Tahara also discloses that the user can select the gameplay action or function associated with a touch button. *See, e.g., id.*, FIG. 14, ¶187.

FIG. 22



Tahara teaches that these buttons can be tied to actions for a user's character to perform, such as "Talk," "Check," "Swing Sword," "Run Away," "Use Magic" and "Defend," among others. *Id.*, Fig. 49.

As demonstrated through its figures, Tahara is primarily focused on touch buttons as the mode of controlling character actions in the video game. A POSITA would have been motivated to also add more dynamic touches such as swipes, drags, or other more-complicated touch gestures as a gameplay control. Such inputs may be more intuitive or applicable for certain gameplay actions and also provide more engaging entertainment for players. A POSITA would understand that Tahara could be improved by allowing enhanced user customization of touch controls, including by allowing users to add swipes, drags, and the like in addition to the buttons.

Accordingly, it would have been obvious for a POSITA to modify Tahara to provide additional touch gestures, in addition to the movable touch buttons it already discloses. To do so, a POSITA would have turned to Lemort, which teaches increasingly complex touch gesture input types, such as continuous touch gestures, multi-touch gestures, and simultaneous gestures. *See, e.g.,* Lemort, ¶¶ 11 ("one of the objects and advantages of the present invention is to provide an

approach to segment a sequence of user inputs into temporally contiguous elementary multi-touch gestures and hence performing a continuous recognition of multi-touch gestures”), 46, 51. Indeed, Lemort teaches that “The availability of multi-touch input devices opens up the possibilities for new innovative gestures using multiple fingers which can be more intuitive and efficient through their proximity to actions used to manipulate everyday objects.” *Id.*, [0007]. A POSITA would understand Tahara’s device is a “multi-touch input devices” that Lemort could then improve with its teachings about detecting multi-touch gestures. Lemort then provides technical details for how to generate events when a multi-touch gesture is detected, (*id.*, ¶41), and teaches that applications can subscribe to the multi-touch gesture recognition engine (MGRE) and use event handlers to recognize different sets of gestures. *Id.*, ¶42. These steps would have been well within the skill of a POSITA, such that combining Tahara and Lemort would have been a simple combination of known elements.

Moreover, Lemort belongs to the same field of endeavor as Tahara and the ’746 patent, focusing on improving touch controls for software applications, including video games. *See, e.g., id.*, ¶11, claim 23 (“wherein the said application is a video game.”). Given Tahara also relates to touch-based improvements to video games, (Tahara, ¶¶26-28, 30-31), a POSITA would have known they could look to Lemort to further improve Tahara. A POSITA also would have had a reasonable expectation of success in combining Tahara with Lemort, which is similarly directed to different ways to use existing touch-based technology to recognize more complicated gestures. *See, e.g., id.*, FIG. 1, ¶¶11, 42.

(iii) Filer (U.S. Patent Application Publication No. 2009/0325705 A1) in view of Shimura

Filer provides solutions for video games with game scripts that require different magnitude of gestures (gross or fine) from the player user at different times. *See, e.g., Filer*, ¶4. Filer

generally teaches a technique in which, when gesture inputs of different scales are expected at certain points during the game script, a detection range for the gesture inputs can be dynamically re-sized. *See, e.g., id.*, ¶38 (“Thus, if game play by a user requires an action, movement, or input that may only be captured if the resolution of the sensor sensitivity measurement within the sensor is set to the largest measurement range, the game server transmits a command dynamically when necessary to adjust the sensitivity range of the sensor to its largest measurement range.”). Filer discloses that this dynamic adjustment of input detection based on a knowledge of the game script can “forestall clipping, and the associated loss of motion data.” *Id.*, ¶39; *see also id.*, ¶4 (“By having the game server software assign the sensitivity range resolution dynamically, and the input device performing the adjustment and communicating the user movements back to the game server, fine gestures as well as broader, larger gestures can be discerned with better accuracy and precision.”). Further, by more fully capturing player inputs, players can more successfully complete required gameplay actions and progress (or receive rewards) through the game script. *Id.*, ¶42.

Filer does not explicitly specify the types of game scripts where its technique can be applied, nor does Filer limit the input device that receives inputs. *See, e.g., Filer*, cl. 9 (“dynamically adjusting sensor parameters in a remote game peripheral”). Thus a POSITA would have understood Filer’s teachings are not limited to particular kinds of games or devices for receiving input gestures. A POSITA would have been motivated to improve other games with Filer’s teachings about dynamically adjusting input detection, which would have the benefit of avoiding clipping of input data and the associated loss of motion data, as described by Filer.

For instance, a POSITA would have been motivated to combine Filer with Shimura, which discloses a platform game having a character controlled by touch screen strokes. *See, e.g.,*

Shimura, ¶50 (“Character 201 is shown standing on a virtual platform 205. Character 201 can move right or left in the direction of arrows 321, 325 respectively by walking, in an animated fashion, along the platform to the right or to the left.”), ¶52 (“System P desirably translates touching contact (e.g., strokes from one point to another) with touch screen 13 to a command that controls the direction and/or other characteristics of the motion of character 201.”). A POSITA would have recognized that the touch screen strokes would also be prone to clipping due to fixed or limited sensing areas and accordingly would have applied Filer for Shimura’s game. Filer teaches that by taking account of the game script, which informs “the type of gestures expected at any given point in the game,” the system can “dynamically prepare the remote game peripheral for the expected range of motion by transmitting a sensor sensitivity adjustment.” Filer, ¶39.

A POSITA would have recognized that Filer and Shimura are compatible and would have been motivated to combine their teachings. Filer’s dynamic input sensitivity technique could be easily implemented for Shimura’s platform game, allowing Shimura to realize the benefits discussed by Filer. Shimura—similar to Filer—relates to the detection of gameplay inputs and discloses defining areas and zones where the touch screen strokes can be detected. *See, e.g.*, Shimura, ¶49 (“Touches by stylus 16 or otherwise within the selection area 203 area are interpreted to be relevant to the motion of game character 201, whereas touches outside of this bounding box are determined not to be relevant to the motion of game character 201.”), ¶56 (“When a stylus (not shown) is placed on a screen, the position of the initial selection point 551 is determined and the corresponding zones 552, 554, 556, 558 are also determined. Each zone has an action or a movement associated with it.”). Filer’s teachings for detecting movement gestures of a remote game peripheral are also compatible with Shimura’s teachings related to touch screen strokes. Both types of gestures (remote movement versus touch screen strokes) are detected in a

measurement range or zone, and both Filer and Shimura are focused on how and where that measurement range/zone is defined. *See* Filer, ¶39 (“range of motion,” “range of measurement”); Shimura, ¶57 (“Movement of the stylus from the initial selection point 551 into the rightmost zone 552 causes a game object (not shown) to take the action or make the movement associated with the rightmost zone 552.”).

Beyond the close similarities in disclosing detection ranges or zones, each one of Filer and Shimura has individual benefits that can improve the respective other, providing additional reasons why a POSITA would be motivated to combine the two to improve a game’s input detection system. Specifically, while Filer generally discusses dynamically increasing input sensitivity to a broader range during the game script, Filer would benefit from Shimura’s teachings for dynamic positioning of detection zones. *See* Shimura, Title, ¶56. For instance, rather than simply expanding a detection range located a fixed position, incorporating Shimura’s teachings into Filer would also allow for re-positioning of the detection range or area based on a starting input point. A POSITA would recognize that doing so would realize the benefits discussed respectively by Filer and Shimura.

Based on at least these similarities, Filer and Shimura belong to the same field of endeavor as the ’746 patent by implementing gesture input detection for video games. A POSITA would have had a reasonable expectation of success combining Filer and Shimura, given the overlap in their teachings. Because each reference discusses configurations of detection ranges or zones (e.g., size, position), combining these configurations together would have been well within the capability of a POSITA.

III. INVALIDITY UNDER 35 U.S.C. § 112

Defendant provides the following grounds for invalidity under 35 U.S.C. § 112, ¶¶ 1–2. Defendant’s investigation of the Asserted Patent is ongoing, and Defendant reserves the right to amend or supplement these disclosures based on further investigation and in a manner consistent with the Federal Rules of Civil Procedure, the Local Patent Rules for the District of Delaware, and the Scheduling Order entered in this case, or otherwise in accordance with any order or direction of this Court or agreement of the parties. Further, Plaintiffs’ Infringement Contentions fail to provide sufficient detail to fully understand its proposed application of the Asserted Claims, and Defendant reserves the right to assert additional grounds for invalidity under 35 U.S.C. § 112 in response to Plaintiffs’ claim interpretations. Defendant also reserves the right to supplement, modify, or otherwise amend these grounds for invalidity under 35 U.S.C. § 112 based on the Court’s claim construction rulings or opinions or the parties’ positions or arguments taken in connection with the claim construction process.

Defendant identifies the below grounds upon which it presently contends the Asserted Claims of the Asserted Patent are invalid for failure to meet one or more of the requirements of 35 U.S.C. § 112. A more detailed basis for Defendant’s indefiniteness, enablement, and/or written description defenses will be set forth in expert reports on invalidity, to be served in accordance with the Scheduling Order entered in this case or in Defendant’s claim construction briefing. Defendant has not yet taken any depositions related to these issues. Defendant specifically reserve the right to amend and/or supplement these Invalidity Contentions based on a failure to comply with the requirements of 35 U.S.C. § 112.

In addition, Defendant identifies claims below that are indefinite under 35 U.S.C. § 112 ¶ 2, which Defendant will more fully address these grounds as part of claim construction.² Defendant reserve the right to provide additional explanation and/or argument for their Invalidity Contentions under Section 112, including, for example, based on expert testimony.

Subject to the reservation of rights above, Defendants provide below an identification of Asserted Claims that are, at least as apparently construed by Plaintiff in their Infringement Contentions, invalid pursuant to 35 U.S.C. § 112 as indefinite, not enabled, or lacking sufficient written description.

A. Indefiniteness Under 35 U.S.C. §§ 112(b) and/or (f)

Indefiniteness: Section 112 includes a definiteness requirement. *See* 35 U.S.C. § 112 ¶ 2 (“[T]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.”) The definiteness requirement of Section 112 requires that “a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S.Ct. 2120, 2129 (2014). When evaluating indefiniteness, it is insufficient that the claims can have “some meaning” ascribed to them; instead, the indefiniteness inquiry focuses “on the understanding of a skilled artisan at the time of the patent application.” *Id.* at 2130. Claims that depend from claims that are indefinite inherit the indefiniteness of the claims from which they depend and are also indefinite.

² Any dependent claim is invalid if it depends, directly or indirectly, on another claim that is invalid under 35 U.S.C. § 112.

One or more of the Asserted Claims are invalid because they fail to particularly point out and distinctly claim the subject matter that the listed inventors regarded as their inventions. Defendant contends that a person of ordinary skill in the art to which the purported invention pertains would not understand the scope of the below-identified claim language read in light of the pertinent specification. Accordingly, each of the claims incorporating the language identified below is indefinite under 35 U.S.C. § 112, ¶ 2:

1. Indefiniteness for the '284, '797, '827, and '691 patents

- All claims reciting “a virtual character with a virtual character statistic in which a player in a real world player geographic location interacts with the video game.” *See, e.g.*, '284 patent, Claim 1; '797 patent, cl. 1; '827 patent, cl. 1; '691 patent, cls. 1.
- “Player” in Claim 1 of each of the '284, '797, '827, and '691 patents. *See, e.g.*, '284 patent, cl. 1; '797 patent, cl. 1; '827 patent, cl. 1; '691 patent, cl. 1.
- All claims reciting “the player’s virtual character” *See, e.g.*, '284 patent, Cl. 1; '797 patent, cl. 1; '827 patent, cl. 1; '691 patent, cl. 1.
- All claims reciting “local element script.” *See, e.g.*, '284 patent, Claim 1; '797 patent, cl. 1; '827 patent, cl. 1; '691 patent, cl. 1.
- All claims reciting “plot node.” *See, e.g.*, '284 patent, Claim 1; '797 patent, cl. 1; '827 patent, cl. 1; '691 patent, cl. 1.
- All claims reciting “operating context.” *See, e.g.*, '284 patent, Claim 3; '797 patent, cl. 3; '827 patent, cl. 3; '691 patent, cl. 3.
- Those claims depending from Claim 1 that recite “the storyline,” with the exception of claim 7. *See, e.g.*, '284 patent, cls. 8, 24-25, 27-28; '797 patent, cls. 8, 21-22, 24-25; '827 patent, cls. 8, 21-22, 24-25; '691 patent, cls. 8, 21-22, 24-25.

- All claims reciting “the local element script actuatable in the video game to modify one or more of the virtual character statistic and a plot node.” *See, e.g.*, ’284 patent, cl. 1; ’797 patent, cl. 1; ’827 patent, cl. 1; ’691 patent, cl. 1.
- All claims reciting “actuating the corresponding local element script in the video game while the player is interacting with the video game and the player’s real world player geographic location is not represented by another player and not actuating the corresponding local element script when the player’s real world player geographic location is represented by another player.” *See, e.g.*, ’284 patent, cl. 1; ’797 patent, cl. 1; ’827 patent, cl. 1; ’691 patent, cl. 1.
- All claims reciting “creating” in a database a local element script. *See, e.g.*, ’284 patent, cl. 1; ’797 patent, cl. 1.
- All claims reciting “creating a second or further local element script” or “creation of the local element script.” *See, e.g.*, ’284 patent, cls. 2, 3; ’797 patent, cls. 2, 3; ’827 patent, cls. 2, 3; ’691 patent, cl. 3.
- All claims reciting a “null location.” *See, e.g.*, ’284 patent, cl. 9; ’797 patent, cl. 9; ’827 patent, cl. 9; ’691 patent, cl. 9.
- All claims reciting a “new scene” in the storyline. *See, e.g.*, ’284 patent, cl. 8; ’797 patent, cl. 8; ’827 patent, cl. 8; ’691 patent, cl. 8.
- All claims reciting “the detected location is unsupported.” *See, e.g.*, ’284 patent, cl. 9; ’797 patent, cl. 9; ’827 patent, cl. 9; ’691 patent, cl. 9.
- All claims reciting “local element script” to the extent it may be construed as a means plus function term embedded in a method claim. *See, e.g.*, ’284 patent, cls. 1, 2, 3, 4, 5, 7, 21, 22, 24, 25, 27, 28; ’797 patent, cls. 1, 2, 3, 4, 5, 7, 21, 22, 24, 25, 26, 27; ’827

patent, cls. 1, 2, 3, 4, 5, 7, 21, 22, 24, 25, 26, 27; '691 patent, cls. 1, 2, 3, 4, 5, 7, 21, 22, 24, 25, 26, 27.

2. Indefiniteness for the '710 patent

- All claims reciting “rating of the virtual good.” *See, e.g.*, Claims 1, 15.
- All claims reciting “wherein the game engine receives new ratings substantially instantaneously.” *See, e.g.*, Claim 23.

3. Indefiniteness for the '592 patent

- All claims reciting “storyline.” *See, e.g.*, Claims 1-6, 8, 14-16, 21.
- All claims reciting “scene in the storyline.” *See, e.g.*, Claim 16.
- All claims reciting “permitting the other players’ characters to interact with the retrieved storyline as long as the first player remains connected to the game.” *See, e.g.*, Claim 1.
- All claims reciting “wherein other storylines are opened and closed to the first player’s character as other players enter and leave the game.” *See, e.g.*, Claim 1.
- All claims reciting “wherein the second or further storyline replaces the previously retrieved storyline.” *See, e.g.*, Claim 3.
- All claims reciting “wherein the second or further storyline is added to the previously retrieved storyline.” *See, e.g.*, Claim 4.
- All claims reciting “the departure of that player from the game closes up a storyline for the remaining players in the game.” *See, e.g.*, Claim 15.

4. Indefiniteness for the '746 patent

- All claims reciting “expectation of action.” *See, e.g.*, Claim 1.

- All claims reciting “calculating fidelity of the touch gesture input to an optimal gesture.” *See, e.g.*, Claim 1.
- All claims reciting “optimal straight line gesture” and “that are not perfectly straight or that are not perfectly horizontal.” *See, e.g.*, Claim 13.
- All claims reciting “optimal arc gesture” and “that are not perfectly arc-shaped or are not necessarily completely round.” *See, e.g.*, Claim 14.
- All claims reciting “an optimal angle gesture includes a range of angles with the same general heading or direction.” *See, e.g.*, Claim 15.

B. Written Description (35 U.S.C. § 112, ¶1)

Written Description and Enablement: 35 U.S.C. § 112 further includes a written description requirement. 35 U.S.C. § 112 ¶ 1 (“The specification shall contain a written description of the invention”). To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention at the time of filing the patent application. *See generally AriadPharms., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336 (Fed. Cir. 2010).

35 U.S.C. § 112 ¶1 requires a patent to describe “the manner and process of making and using [the claimed invention], in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.” A patent must disclose enough to permit a person of skill in the art, after reading the specification, to practice the claimed invention without undue experimentation. *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008). Moreover, “[t]he full scope of the claimed invention must be enabled.” *Id.* at 999-1000 (“Because the asserted claims are broad enough to

cover both movies and video games, the patents must enable both embodiments.”) “Enabling the full scope of each claim is part of the quid pro quo of the patent bargain.” *Id.*

Claims that depend from claims that are invalid for lack of enablement or written description support inherit the deficiencies of the claims from which they depend and are also invalid.

Defendants contend that Plaintiff’s apparent claim constructions render the asserted claims extremely broad in scope and well beyond the purported inventions described in the Asserted Patent. Plaintiff is attempting to construe the Asserted Patent in an idiosyncratic manner that is entirely inconsistent with the written specification of the Asserted Patent as well as with the understanding of one of ordinary skill in the art at the time the applications that issued as the Asserted Patents were filed. These allegations are inconsistent with the plain language of the claims, the supporting description, and the prosecution history.

The Asserted Claims are invalid because the specification of the Asserted Patent does not include sufficient written description of the purported inventions allegedly claimed in the Asserted Patent, and the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use any of the allegedly claimed inventions. 35 U.S.C. § 112, ¶ 1. Moreover, the patent application that issued as the Asserted Patent did not contain a written description of the purported invention sufficiently clear and complete to enable one of ordinary skill in the art to which the purported invention pertains to make and use the invention as claimed without undue experimentation. *Id.* To the extent any of the Asserted Claims are found to cover one or more of the Accused Instrumentalities identified in Plaintiff’s Infringement Contentions,

such Asserted Claims are also invalid under 35 U.S.C. § 112, ¶ 1 because their full scope is not enabled by the specifications of the relevant Asserted Patent.

Defendants contend that the full scope of each Asserted Claim was not described with particularity in the specification to which priority is sought, so as not to set forth enough detail to allow a person of ordinary skill in the art to understand what is claimed and to recognize that the inventor invented what is claimed. Accordingly, each Asserted Claim of the Asserted Patent is invalid for lack of adequate written description and/or enablement under 35 U.S.C. § 112, ¶ 1. The following claim terms are invalid for lack of written description under 35 U.S.C. § 112, ¶ 1:

1. Written Description for the '284, '797, '827, and '691 patents

- All claims reciting “a virtual character with a virtual character statistic in which a player in a real world player geographic location interacts with the video game.” *See, e.g.*, '284 patent, Claim 1; '797 patent, cl. 1; '827 patent, cl. 1; '691 patent, cls. 1.
- “Player” in Claim 1 of each of the '284, '797, '827, and '691 patents. *See, e.g.*, '284 patent, cl. 1; '797 patent, cl. 1; '827 patent, cl. 1; '691 patent, cl. 1.
- All claims reciting “the player’s virtual character” *See, e.g.*, '284 patent, Cl. 1; '797 patent, cl. 1; '827 patent, cl. 1; '691 patent, cl. 1.
- All claims reciting “local element script.” *See, e.g.*, '284 patent, Claim 1; '797 patent, cl. 1; '827 patent, cl. 1; '691 patent, cl. 1.
- All claims reciting “plot node.” *See, e.g.*, '284 patent, Claim 1; '797 patent, cl. 1; '827 patent, cl. 1; '691 patent, cl. 1.
- All claims reciting “operating context.” *See, e.g.*, '284 patent, Claim 3; '797 patent, cl. 3; '827 patent, cl. 3; '691 patent, cl. 3.

- Those claims depending from Claim 1 that recite “the storyline,” with the exception of claim 7. *See, e.g.*, ’284 patent, cls. 8, 24-25, 27-28; ’797 patent, cls. 8, 21-22, 24-25; ’827 patent, cls. 8, 21-22, 24-25; ’691 patent, cls. 8, 21-22, 24-25.
- All claims reciting “the local element script actuatable in the video game to modify one or more of the virtual character statistic and a plot node.” *See, e.g.*, ’284 patent, cl. 1; ’797 patent, cl. 1; ’827 patent, cl. 1; ’691 patent, cl. 1.
- All claims reciting “actuating the corresponding local element script in the video game while the player is interacting with the video game and the player’s real world player geographic location is not represented by another player and not actuating the corresponding local element script when the player’s real world player geographic location is represented by another player.” *See, e.g.*, ’284 patent, cl. 1; ’797 patent, cl. 1; ’827 patent, cl. 1; ’691 patent, cl. 1.
- All claims reciting “creating” in a database a local element script. *See, e.g.*, ’284 patent, cl. 1; ’797 patent, cl. 1.
- All claims reciting “creating a second or further local element script” or “creation of the local element script.” *See, e.g.*, ’284 patent, cls. 2, 3; ’797 patent, cls. 2, 3; ’827 patent, cls. 2, 3; ’691 patent, cl. 3.
- All claims reciting a “null location.” *See, e.g.*, ’284 patent, cl. 9; ’797 patent, cl. 9; ’827 patent, cl. 9; ’691 patent, cl. 9.
- All claims reciting a “new scene” in the storyline. *See, e.g.*, ’284 patent, cl. 8; ’797 patent, cl. 8; ’827 patent, cl. 8; ’691 patent, cl. 8.
- All claims reciting “the detected location is unsupported.” *See, e.g.*, ’284 patent, cl. 9; ’797 patent, cl. 9; ’827 patent, cl. 9; ’691 patent, cl. 9.

- All claims reciting “local element script” to the extent it may be construed as a means plus function term embedded in a method claim. *See, e.g.*, ’284 patent, cls. 1, 2, 3, 4, 5, 7, 21, 22, 24, 25, 27, 28; ’797 patent, cls. 1, 2, 3, 4, 5, 7, 21, 22, 24, 25, 26, 27; ’827 patent, cls. 1, 2, 3, 4, 5, 7, 21, 22, 24, 25, 26, 27; ’691 patent, cls. 1, 2, 3, 4, 5, 7, 21, 22, 24, 25, 26, 27.

2. Indefiniteness for the ’710 patent

- All claims reciting “rating of the virtual good.” *See, e.g.*, Claims 1, 15.
- All claims reciting “wherein the game engine receives new ratings substantially instantaneously.” *See, e.g.*, Claim 23.

3. Written Description for the ’592 patent

- All claims reciting “storyline.” *See, e.g.*, Claims 1-6, 8, 14-16, 21.
- All claims reciting “scene in the storyline.” *See, e.g.*, Claim 16.
- All claims reciting “permitting the other players’ characters to interact with the retrieved storyline as long as the first player remains connected to the game.” *See, e.g.*, Claim 1.
- All claims reciting “wherein other storylines are opened and closed to the first player’s character as other players enter and leave the game.” *See, e.g.*, Claim 1.
- All claims reciting “wherein the second or further storyline replaces the previously retrieved storyline.” *See, e.g.*, Claim 3.
- All claims reciting “wherein the second or further storyline is added to the previously retrieved storyline.” *See, e.g.*, Claim 4.
- All claims reciting “the departure of that player from the game closes up a storyline for the remaining players in the game.” *See, e.g.*, Claim 15.

4. Written Description for the '746 patent

- All claims reciting “expectation of action.” *See, e.g.*, Claim 1.
- All claims reciting “calculating fidelity of the touch gesture input to an optimal gesture.” *See, e.g.*, Claim 1.
- All claims reciting “optimal straight line gesture” and “that are not perfectly straight or that are not perfectly horizontal.” *See, e.g.*, Claim 13.
- All claims reciting “optimal arc gesture” and “that are not perfectly arc-shaped or are not necessarily completely round.” *See, e.g.*, Claim 14.
- All claims reciting “an optimal angle gesture includes a range of angles with the same general heading or direction.” *See, e.g.*, Claim 15.

IV. INVENTORSHIP AND UNENFORCEABILITY

To the extent discovery reveals that Plaintiffs, their predecessors-in-interest, or the Named Inventors of any Asserted Patents did not in fact invent the Asserted Patents, Defendant reserves the right to challenge that the Asserted Patents are invalid under 35 U.S.C. § 102(f) because the inventor of the asserted patent claims did not invent the subject matter claimed therein. Under Pre-AIA 35 U.S.C. § 102(f), a person shall not be entitled to a patent if “he did not himself invent the subject matter sought to be patented.” 35 U.S.C. § 102(f). 35 U.S.C. § 111 further requires that the patent application “be made, or authorized to be made, by the inventor.” 35 U.S.C. § 111. Accordingly, “[a] patent is invalid if more or less than the true inventors are named.” *Trovan, Ltd. v. Sokymat SA, Irori*, 299 F.3d 1292, 1301 (Fed. Cir. 2022). “Determining ‘inventorship’ is nothing more than determining who conceived the subject matter at issue.” *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994). “Conception is the touchstone of invention, and it requires a definite and permanent idea of an operative invention, including every feature of the subject matter sought to

be patented.” *In re VerHoef*, 888 F.3d 1362, 1366 (Fed. Cir. 2018) (internal citations omitted) (emphasis in original). “As to joint inventorship, a joint inventor must contribute to the invention’s conception.” *CODA Dev. S.R.O. v. Goodyear Tire & Rubber Co.*, 916 F.3d 1350, 1358 (Fed. Cir. 2019). However, the joint inventor “need not make the same type or amount of contribution to the invention nor contribute to every claim—a contribution to one claim is enough.” *Id.*

To the extent discovery reveals that Plaintiffs or their predecessors-in-interest to the Asserted Patents improperly derived the alleged invention or any part of the alleged invention pursuant to pre-AIA U.S.C. § 102(f) from another person or entity, Defendant reserves the right to amend its invalidity contentions with the name(s) of the person(s) or entities from whom, and the circumstances under which, the alleged inventions or any part(s) of the alleged inventions were derived. Improper derivation requires: (1) prior conception by another, and (2) communication of that conception to a named inventor. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1576 (Fed. Cir. 1997).

To the extent discovery reveals that Plaintiffs or their predecessors-in-interest engaged in inequitable conduct in securing the Asserted Patents, Defendant reserves the right to challenge that the Asserted Patents are unenforceable. “Inequitable conduct is a defense to patent infringement that, if proven, renders the asserted patent unenforceable.” *Belcher Pharm., LLC v. Hospira, Inc.*, 11 F.4th 1345, 1352. “To prevail on an inequitable conduct defense, a defendant must establish both the materiality of the withheld reference and the applicant’s intent to deceive the [Patent and Trademark Office (“PTO”)].” *Id.* “[T]he materiality required to establish inequitable conduct is but-for materiality,” such that the PTO would not have allowed a claim had it been aware of the undisclosed information. *Therasense, Inc. v. Becton, Dickinson and Co.*, 649 F.3d 1276, 1291 (Fed. Cir. 2011). “[A]n examiner must attend to the question of inventorship, pursuant to 35 U.S.C.

§ 102(f),” which dictates a person shall not be entitled to a patent if “he did not himself invent the subject matter sought to be patented.” *PerSeptive Biosystems, Inc. v. Pharmacia Biotech, Inc.*, 225 F.3d 1315, 1322 (Fed. Cir. 2000); 35 U.S.C. § 102(f). Furthermore, under 35 U.S.C. § 111, a patent application is required to “be made, or authorized to be made, by the inventor.” 35 U.S.C. § 111. Therefore, “[a]s a critical requirement for obtaining a patent, inventorship is material.” *PerSeptive*, 225 F.3d at 1321. Where the applicant’s “falsehoods, misrepresentations and omissions were all directed towards a central issue—whether the named inventors were the sole inventors,” “the behavior of the applicants constituted inequitable conduct.” *Id.* at 1322-23 (affirming the district court’s holding that the patents are unenforceable).

For example, the examiner rejected the application leading to the ’284 patent on October 14, 2016 over *Watkins*, U.S. Application No. 2012/0157197, which ultimately became the ’592 patent. To overcome this rejection, Applicant submitted a request to correct the inventorship of the application for the ’284 patent to add Oliver Watkins, Jr. as a co-inventor on April 13, 2017. Defendant reserves the right to challenge whether this change in inventorship was proper or simply designed to overcome a prior art rejection and/or secure an earlier priority date.

For further example, the examiner rejected the application leading to the ’691 patent on October 14, 2016 over *Watkins*, U.S. Application No. 2012/0157197, which ultimately became the ’592 patent. To overcome this rejection, Applicant submitted a request to correct the inventorship of the application for the ’691 patent to add Oliver Watkins, Jr. as a co-inventor on April 13, 2017. Defendant reserves the right to challenge whether this change in inventorship was proper or simply designed to overcome a prior art rejection and/or secure an earlier priority date.

For further example, Applicant waited until November 12, 2024 to add Mr. Watkins as a co-inventor for the ’797 patent; similarly, Applicant waited until November 13, 2024 to add Mr.

Watkins as a co-inventor for the '827 patent. Applicant waited to disclose Mr. Watkins as an inventor, despite adding Mr. Watkins to the other related Location patents years previously, and despite filing a terminal disclaimer for the '797 patent as to the '284 patent on July 26, 2022, and filing a terminal disclaimer for the '827 patent as to the '284 patent and the '797 patent on January 19, 2023). Defendant reserves the right to challenge whether these changes in inventorship were proper or designed to gain some advantage during prosecution.

Because Defendant has not yet completed discovery in this case, including but not limited to taking depositions of the named inventors of the Asserted Patents, reviewing Plaintiffs' productions, and seeking discovery of prior inventions by third parties, Defendant reserves the right to supplement this disclosure with facts, documents, or other information learned at a later point through discovery or other further investigation. Discovery is still early in the case, and Defendant reserves the right to identify additional Inventorship and/or Unenforceability issues based on developments as this case progresses.

V. UNPATENTABILITY UNDER 35 U.S.C. § 101

Each of the Asserted Claims is directed to nothing more than an abstract idea and is thus ineligible for patent protection. Petitioner incorporates by reference the arguments included in its motions to dismiss that challenge the Asserted Patents as being directed to patent ineligible subject matter under 35 U.S.C. (s) 101. Dkt. Nos. 33-34, 39. The below provides supporting caselaw and explanation for why the claims of the Asserted Patents are invalid under 35 U.S.C. § 101. The discussion below is meant to be exemplary; Defendant reserves the right to further explain the arguments identified below, including by citing additional or different caselaw.

A. Background Principles

Section 101 of the Patent Act defines patent-eligible subject matter as “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement

thereof.” 35 U.S.C. § 101. The Supreme Court has long held that there is an “implicit exception” in § 101—“[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 216, 134 S.Ct. 2347, 189 L.Ed.2d 296 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589, 133 S.Ct. 2107, 186 L.Ed.2d 124 (2013)). To do so, courts apply the two-step framework set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 77–80, 132 S.Ct. 1289, 182 L.Ed.2d 321 (2012), and further detailed in *Alice*. At *Alice* step one, courts do not focus on individual limitations of the claims, but instead evaluate the focus of the “claimed advance over the prior art” to determine if the claim’s “character as a whole” is directed to excluded subject matter. *Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355, 1361 (Fed. Cir. 2023) (citation omitted); *see also Intell. Ventures I LLC v. Cap. One Fin. Corp.*, 850 F.3d 1332, 1339 (Fed. Cir. 2017) (examining, at *Alice* Step One, the claims “[s]tripped of excess verbiage.”). If so, at *Alice* step two, courts evaluate whether the elements of the claims “both individually and ‘as an ordered combination’” add an inventive concept that “ensure[s] that the patent in practice amounts to significantly more than . . . the [ineligible concept] itself.” *Id.* at 1360 (quoting *Alice*, 573 U.S. at 217–18).

A patent that merely places an existing idea in the context of a computer is patent-ineligible. *Esignature Software, LLC v. Adobe Inc.*, No. 2023-1711, 2024 WL 3289488, at *3 (Fed. Cir. July 3, 2024) (“[C]laim 1, due to its purely functional and generic implementation, amounts to little more than saying: do that on a computer.”); *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1243 (Fed. Cir. 2016) (“It is not enough to point to conventional applications and say ‘do it on a computer.’”). Taking an existing concept and adding internet access or performing the concept over the internet is patent-ineligible. *Charge-Point, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766,

770 (Fed. Cir. 2019) (“[T]he inventors here had the good idea to add networking capabilities to existing charging stations to facilitate various business interactions. But that is where they stopped, and that is all they patented. We therefore hold that claim 1 is ‘directed to’ an abstract idea.”); *Ultramercial, LLC v. WildTangent, Inc.*, 772 F.3d 709 (Fed.Cir.2014) (finding patent-ineligible claims involving the display of an advertisement in exchange for access to copyrighted media, where the limitations “simply instruct the practitioner to implement the abstract idea with routine, conventional activity” and where the “invocation of the Internet also adds no inventive concept”), *cert. denied*, 135 S.Ct. 2907 (2015).

Placing an idea in a “particular technical environment” (e.g., multiplayer and/or virtual gaming) does not change the analysis under § 101. *See, e.g., Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1341 (Fed. Cir. 2018); *Planet Bingo, LLC v. VKGS LLC*, 576 Fed. App’x 1005 (Fed.Cir.2014) (finding patent-ineligible claims reciting methods and systems for “managing a game of Bingo” where the claimed computer elements—“a computer with a central processing unit,” “a memory,” “an input and output terminal,” “a printer,” possibly “a video screen,” and a “program ... enabling the steps of managing a game of bingo” perform steps of selecting, storing, and retrieving two sets of numbers, assigning a player identifier and a control number, and comparing a winning set of bingo numbers with a selected set of bingo numbers—simply recite a generic computer implementation of the covered abstract idea); *In re Smith*, 815 F.3d 816, 818–19 (Fed. Cir. 2016) (invalidating claims “directed to rules for conducting a wagering game” and agreeing that a “wagering game is, effectively, a method of exchanging and resolving financial obligations based on probabilities created during the distribution of the cards”); *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (“[T]he prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of the idea to a

particular technological environment.”); *In re Marco Guldenaar Holding B.V.*, 911 F.3d 1157, 1160–61 (Fed. Cir. 2018) (concluding the claimed “method of playing a dice game” was directed to an abstract idea); *Savvy Dog Sys., LLC v. Pennsylvania Coin, LLC*, No. 2023-1073, 2024 WL 1208980, at *3 (Fed. Cir. Mar. 21, 2024) (“Whether viewed as being directed to a set of rules for playing a game or to a game previewed to the player before committing to playing, we agree with the district court that claim 44 is directed to an abstract idea. . . . We determine that these steps are abstract ideas themselves—whether viewed as part of a set of rules for playing a game or part of a game previewed to the player before committing to playing—and thus cannot be an inventive concept under Alice step two.”); *Bot M8 LLC v. Sony Corp. of Am.*, 4 F.4th 1342, 1350 (Fed. Cir. 2021) (invalidating claims directed to “the abstract idea of increasing or decreasing the risk-to-reward ratio, or more broadly the difficulty, of a multiplayer game based upon previous aggregate results”). This remains true even for patents that purport to tailor gaming content based on a user’s location. *See, e.g., CG Tech. Dev., LLC v. FanDuel, Inc.*, 858 F. App’x 363 (Fed. Cir. 2021) (summarily affirming 442 F. Supp. 3d 840, 849-50 (D. Del. 2020), which found abstract, and nonpatentable, claims directed to “real-world need to address the implications of differing jurisdictions and their effect on permitted game configurations”); *NexRF Corp. v. Playtika Ltd.*, 2022 WL 1513310 (Fed. Cir. 2022) (summarily affirming 547 F. Supp. 3d 977, 991-92 (D. Nev. 2021), which found abstract, and nonpatentable, claims directed to “incentivizing gambling tailored to a user’s location”).

Moreover, 101 issues can be resolved prior to claim construction or significant discovery, particularly where the patentee fails to explain why a particular claim construction or discovery would change or affect the 101 analysis. *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 859 F.3d 1352, 1360 (Fed. Cir. 2017) (collecting cases); *Sanderling Mgmt. Ltd. v. Snap Inc.*, 65

F.4th 698, 704 (Fed. Cir. 2023) (“[W]hile Sanderling identified terms it wanted the district court to construe before deciding Snap’s motion, Sanderling failed to provide proposed constructions for those terms. Sanderling also failed to explain why any proposed constructions were not frivolous or how its constructions would make any difference to the *Alice* analysis.”); *Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355, 1360–61 (Fed. Cir. 2023) (“A patentee must do more than invoke a generic need for claim construction or discovery to avoid grant of a motion to dismiss under § 101. Instead, the patentee must propose a specific claim construction or identify specific facts that need development and explain why those circumstances must be resolved before the scope of the claims can be understood for § 101 purposes.”).

It is appropriate to review 101 issues by looking at representative claims. *Mobile Acuity Ltd. v. Blippar Ltd.*, 110 F.4th 1280, 1293 (Fed. Cir. 2024) (“Limiting the analysis of a § 101 challenge to representative claims is proper when the claims at issue are ‘substantially similar and linked to the same’ ineligible concept.”) (quotation omitted); *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018) (“Courts may treat a claim as representative ... if the patentee does not present any meaningful argument for the distinctive significance of any claim limitations not found in the representative claim.”). Where dependent claims only improve on an invalid independent claim by reciting trivial variations on the abstract idea, “insignificant data-gathering steps” that “add nothing of practical significance to the underlying abstract idea,” or “routine additional steps,” the dependent claims are likewise directed to patent-ineligible subject matter and invalid under 35 U.S.C. § 101. *Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355, 1368 (Fed. Cir. 2023); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1364 (Fed. Cir. 2015); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014).

B. The '284, '797, '827, and '691 Patent Claims Are Directed to Patent-Ineligible Subject Matter

The Location Patents are directed to patent-ineligible subject matter for much the same reasons as the '592 patent. *Infra*, § 0. Indeed, the '284 patent terminally disclaimed the '592 patent, confirming the subject matter of the claims has substantial overlap.³

Step One: The Location Patents are directed to the abstract idea of tailoring content based on location. Courts have long criticized patent claims that tailor content based on location as being directed to a patent ineligible abstract idea. *See, e.g., Sanderling Mgmt. Ltd. v. Snap Inc.*, 65 F.4th 698, 703 (Fed. Cir. 2023) (“As the district court articulated, in a formulation we agree with, the claims are directed to the abstract idea “‘of providing information—in this case, a processing function—based on meeting a condition,’ *e.g.*, matching a GPS location indication with a geographic location.”). Applying the same idea in *Sanderling*—delivering some function based on a user’s detected location—does not make the claims any less abstract merely because the claims also consider the locations of other users. *Id.*; *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1355 (Fed. Cir. 2016) (invalidating claims for “collecting information, analyzing it, and displaying certain results” even when “displaying concurrent visualization” of “two or more types of information”).

The Federal Circuit has held that claims for tailoring Internet content based on user’s locations were abstract. *Intell. Ventures I LLC v. Cap. One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015) (“Providing this minimal tailoring—*e.g.*, providing different newspaper inserts based upon the location of the individual—is an abstract idea.”); *see also Evolutionary Intel. v. Sprint Nextel*, 677 F. App’x 679, 680 (Fed. Cir. 2017) (invalidating claims directed to “allowing

³ Defendant notes that absent these terminal disclaimers, the Location Patents would be subject to obviousness type double patenting (ODP) issues, due to the substantial overlap in subject matter in their claims.

computers to process data that are dynamically modified upon external-to-the-device information, such as location and time”); *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258 (Fed. Cir. 2016) (invalidating claims involving “conveying regional content to out-of-region recipients”). The Federal Circuit explained that “[t]his sort of information tailoring is a fundamental practice long prevalent in our system.” *Id.* at 1369 (quotations and citations omitted). Recently, the Federal Circuit applied similar reasoning to invalidate claims directed to using a user’s location to conduct remote gaming activities, such as gambling. *Beteiro, LLC v. DraftKings Inc.*, 104 F.4th 1350, 1354 (Fed. Cir. 2024) (citing cases holding that claims “providing particularized information to individuals based on their locations” were abstract); *see also CG Tech. Dev., LLC v. FanDuel, Inc.*, 858 F. App’x 363 (Fed. Cir. 2021) (summarily affirming 442 F. Supp. 3d 840, 849-50 (D. Del. 2020), which found abstract, and nonpatentable, claims directed to “real-world need to address the implications of differing jurisdictions and their effect on permitted game configurations”); *NexRF Corp. v. Playtika Ltd.*, 2022 WL 1513310 (Fed. Cir. 2022) (summarily affirming 547 F. Supp. 3d 977, 991-92 (D. Nev. 2021), which found abstract, and nonpatentable, claims directed to “incentivizing gambling tailored to a user’s location”).

Courts in this District have also been critical of claims that tailor content based on location, even in the context of video games. *CG Tech. Dev., LLC v. FanDuel, Inc.*, 442 F. Supp. 3d 840, 847 (D. Del. 2020) (invalidating claims that determined a “game configuration” with “game outcomes” based on a user’s mobile device location). Using a computer to “verify a person’s location is, at its core, a ‘method of organizing human activity,’” which is abstract. *GeoComply Sols. Inc. v. Xpoint Servs. LLC*, No. 22-1273-WCB, 2023 WL 1927393, at *6, *21 (D. Del. Feb. 10, 2023) (granting motion to dismiss without leave to amend); *see also CG Technologies*, 442 F.

Supp. 3d at 847 (criticizing claims reciting “basic steps of determining the configuration of a game based on the location of a mobile device, a method of organizing human activity”).

Arising in the context of gameplay, the Location Patents are similarly directed to the abstract idea of tailoring content based on location, as confirmed by independent claim 1, replicated below:

1. A computer-implemented method of enabling virtual gameplay on a computing device in communication with a storage means and a location sensor, the method comprising the steps of:

providing access to a **video game having a virtual character with a virtual character statistic** in which a player in a real world player geographic location interacts with the video game and with other players in other real world player geographic locations playing other virtual characters;

detecting with the location sensor **the real world player geographic location of the player** and storing the real world player geographic location in the storage means;

creating in a database **a local element script** associated with the real world player geographic location, the local element script actuatable in the video game to modify one or more of the virtual character statistic and a plot node; and

retrieving from the database **mapping information** related to the real world player geographic location of the player and **actuating the corresponding local element script** in the video game while the player is interacting with the video game and the player's real world player geographic location **is not represented by another player and not actuating the corresponding local element script** when the player's real world player geographic location **is represented by another player**,

wherein actuating the local element script comprises **modifying the virtual character statistic of the player's virtual character** and modifying **one or more of a virtual character statistic and a plot node** of at least one of the other players' virtual characters.

Claim 1 of the other Location Patents generally claim the same subject matter:

'797 Patent	'827 Patent	'691 Patent
1. A computer-implemented method of enabling virtual gameplay on a computing	1. A computer-implemented method of enabling virtual gameplay on a computing	1. A computer-implemented method of enabling virtual gameplay on a computing

device in communication with a storage memory and a location sensor, the method comprising the steps of: providing access to a video game having a virtual character with a virtual character statistic in which a player in a real world player geographic location interacts with the video game and with other players in other real world player geographic locations playing other virtual characters; detecting with the location sensor the real world player geographic location of the player and storing the real world player geographic location in the storage memory; creating in a database a local element script associated with the real world player geographic location, the local element script actuatable in the video game to modify one or more of the virtual character statistic and a plot node; and retrieving from the database mapping information related to the real world player geographic location of the player and actuating the corresponding local element script in the video game while the player is interacting with the video game and the player's real world player geographic location is not represented by another player and not actuating the	device in communication with a storage memory and a location sensor, the method comprising the steps of: providing access to a video game having a virtual character with a virtual character statistic in which a player in a real world player geographic location interacts with the video game and with other players in other real world player geographic locations playing other virtual characters; detecting with the location sensor the real world player geographic location of the player and storing the real world player geographic location in the storage memory; retrieving from a database a local element script associated with the real world player geographic location, the local element script actuatable in the video game to modify one or more of the virtual character statistic and a plot node; and retrieving from the database mapping information related to the real world player geographic location of the player and actuating the corresponding local element script in the video game while the player is interacting with the video game and the player's real world player geographic location is not represented by another player and not actuating the	device in communication with a storage memory and a location sensor, the method comprising the steps of: providing access to a video game having a virtual character with a virtual character statistic in which a player in a real world player geographic location interacts with the video game and with other players in other real world player geographic locations playing other virtual characters having virtual character statistics; detecting with the location sensor the real world player geographic location of the player and storing the real world player geographic location in the storage memory; retrieving from a database a local element script associated with the real world player geographic location, the local element script actuatable in the video game to modify one or more of the virtual character statistic and a plot node; and retrieving from the database mapping information related to the real world player geographic location of the player and actuating the local element script in the video game while the player is interacting with the video game and the player's real world player geographic location is not represented by another player and not actuating the local element
--	--	--

corresponding local element script when the player's real world player geographic location is represented by another player, wherein actuating the local element script comprises modifying the virtual character statistic of the player's virtual character and modifying one or more of a virtual character statistic and a plot node of at least one of the other players' virtual characters.	corresponding local element script when the player's real world player geographic location is represented by another player, wherein actuating the local element script comprises modifying the virtual character statistic of the player's virtual character and modifying one or more of a virtual character statistic and a plot node of at least one of the other players' virtual characters.	script when the player's real world player geographic location is represented by another player, wherein actuating the local element script comprises modifying the virtual character statistic of the player's virtual character and modifying one or more of a virtual character statistic and a plot node of at least one of the other players' virtual characters.
---	---	---

Notably, the Plaintiffs selected claim 1 of each respective Location Patent as an “example” that reflects their theories for the other claims; thus, Plaintiffs have suggested Claim 1 of each of the Location Patents is representative of the issues in the other claims. Dkt. 21, ¶¶ 60, 74, 88, 102. Whereas the '592 Patent uses location to display a game “storyline” for players, the Location Patents use location to identify a “local element script” that can modify a “plot node” or “virtual character statistics” based on whether the user’s location is represented by others—if other players represent the same location, the script does not actuate and vice-versa. These claims thus mirror the patent invalidated in *CG Technology* that use location to present a “game configuration” to players, or those invalidated in *Sanderling* that matched and forwarded a “digital image processing function” based on the user’s location. These kinds of location-based claims are directed to the abstract idea of tailoring content based on the various players’ locations.

As explained in *Intellectual Ventures I*, tailoring content based on location is a fundamental human practice. 792 F.3d at 1369. As the saying goes, “local jokes get local work”—Comedians or hosts routinely tailor their shows to the audience’s location, claiming how great shows are in that city. Moreover, humans have long tailored content based on whether someone’s location is

“not represented” by others (i.e., the person is alone). For example, numerous examples exist where a person might want to be alone, whether serious (e.g., attending a confessional or speaking with a bank teller/lawyer, where solitude is enforced for privacy) or for entertainment purpose (e.g., going alone in a bathroom to scream “Bloody Mary,” attending single-viewer screenings, such as attending single-viewer Kinetoscope parlors or Nickelodeons in the early 1900s).

Claims involving multiplayer gaming are no less abstract. *Sandbox Software, LLC v. 18Birdies, LLC*, No. CV 18-1649 (MN), 2019 WL 2524780, at *3 (D. Del. June 19, 2019) (describing “playing a multiplayer game” as an “abstract idea” because it is “a form of organizing human activity”). Computerizing an abstract idea—tailoring content based on location—does not make it patent-eligible. *Sanderling*, 65 F.4th at 703 (providing a “processing function” based on user’s location found abstract). The Location Patents do not explain **how** they accomplish updating players’ plotlines based on location, reinforcing that what is claimed is the abstract idea itself, not a way to solve a technological problem. *See Bot M8 LLC v. Sony Corp. of Am.*, 4 F.4th 1342, 1358 (Fed. Cir. 2021) (claims directed to modifying difficulty of multiplayer game based on previous results were abstract where they “le[ft] open how to accomplish this” and thus “merely recite[d] result-oriented uses of conventional computer devices”) (internal quotation omitted).

Nor are the claims any less abstract because of the “actuating” limitation. *See, e.g.*, ’284 patent, cl. 1 (“actuating the corresponding local element script in the video game while . . . the player's real world player geographic location is not represented by another player and not actuating the corresponding local element script when the player's real world player geographic location is represented by another player”). Indeed, the ’284 patent lacks any details for whether to actuate the local element script, confirming it was focused on the abstract idea of tailoring content based on location. *See, e.g., Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355,

1363 (Fed. Cir. 2023) (“The specifications frame the inventor's problem in terms of how to improve existing polling systems by performing progressive polling, not how to improve computer technology.”).

Moreover, the claims of the Location Patents appear to merely take pre-existing location-based games that existed in the real world and place them in a virtual game world operated by a computer—in other words, they take the abstract idea of tailoring game content based on players’ location and perform that idea on a computer. For example, Dungeons & Dragons is an example of a real-world RPG that can adjust player characters’ statistics as they accomplish quests in the game; it is common for such role-playing games to trigger some quest or story based on whether a player is alone (or if multiple players are in different locations, to fulfill the requirements of a quest). Similarly, MagiQuest by Great Wolf Lodge is another example of a real-world location-based game; players can use wands equipped with RFID chips to check-in to various locations throughout a resort to complete quests, which can include modifying statistics related to their player character. *See, e.g., Intro to MagiQuest*, MagiQuest YouTube Channel, June 10, 2010, <https://www.youtube.com/watch?v=dif3wpTxwe0>. Taking these ideas and performing them in a virtual environment is simply an abstract idea.

Tailoring content based on a player’s location is a classic abstract idea. From storytellers to stand-up comedians to newspapers, people have always tailored stories to a location; the same is true for situations where a user may want to be alone for some reason, such as engaging in confession or attending a single-viewer theater. Using a computer to present video game storylines based on a user’s location is not patent eligible.

Step 2: There is no inventive concept sufficient to transform the abstract idea of the Location Patents. Using the ’284 patent as an example, it recites the same generic “computing

device in communication with a storage means” as in the other Asserted Patents. ’284 Pat., Cl. 1. The ’284 Patent emphasizes that any generic computer will do. *Id.* at 4:51-62, 5:33-47 (the computer may be “a game console”); *id.* at 5:23-32, 8:44-54 (“The virtual world . . . may exist on any type of a gaming device”). The dependent claims of the Location Patents confirm that “detecting” a player’s location does not require any particular technology and can be as simple as the player providing it, for example, by selecting a drop-down box. *See, e.g., id.*, 3:51-4:8 (“a player may be asked to input or select a location”), cl. 15-16 (“...wherein the detecting step includes...player provided location information”). The “Background” of the ’284 Patent explains that “virtual worlds . . . used for massively multiple online role-playing games” including those with “storylines” were conventional and well-known. *Id.* at 1:22-47. Thus, the claims only add the abstract idea of tailoring those storylines based on location. *Id.* at 1:43-47.

Moreover, the “actuating” limitation does not confer any inventive concept. Indeed, the ’284 patent lacks any details for whether to actuate the local element script, confirming it was focused on the abstract idea of tailoring content based on location. *See, e.g., Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355, 1363 (Fed. Cir. 2023) (“The specifications frame the inventor’s problem in terms of how to improve existing polling systems by performing progressive polling, not how to improve computer technology.”); *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 768 (Fed. Cir. 2019) (“The specification also makes clear—by what it states and what it does not—that the invention of the ’715 patent is the idea of *network-controlled* charging stations. . . . Notably, however, the specification never suggests that the charging station itself is improved from a technical perspective, or that it would operate differently than it otherwise could.”). Thus, the Location Patents do not provide anything “inventive” with their actuating limitation, including because they never explain how that would be accomplished technically; instead, the actuating

limitation reflects a detail of when the abstract idea is applied, e.g., when a user's location is not represented by others.

Moreover, the claims of the Location Patents are not inventive because they merely take pre-existing location-based games that existed in the real world and place them in a virtual game world operated by a computer—in other words, they take the abstract idea of tailoring game content based on players' location and perform that idea on a computer. For example, Dungeons & Dragons is an example of a real-world RPG that can adjust player characters' statistics as they accomplish quests in the game; it is common for such role-playing games to trigger some quest or story based on whether a player is alone. Similarly, MagiQuest by Great Wolf Lodge is another example of a real-world location-based game; players can use wands equipped with RFID chips to check-in to various locations throughout a resort to complete quests, which can include modifying statistics related to their player character. When a player interacts with a quest in MagiQuest, their location is “represented” and the game permits them to accomplish tasks accordingly. Taking these ideas and performing them in a virtual environment is simply an abstract idea.

Furthermore, the elements of the Location Patents' claims are not inventive because they “are organized in an expected way.” *Trinity*, 72 F.4th at 1366. The claimed method follows the predictable steps of: “detecting... the real world player geographic location of the player”; “creating . . . a local element script associated with the real world player geographic location”; “retrieving . . . mapping information related to the real world player geographic location”; and “actuating” or not-actuating the “corresponding local element script” based on whether “the player's real world player geographic location is represented by another player.” ’284 Pat., Cl. 1.

This is the logical flow of steps—for example, it would not make sense to create a location-based script *before* detecting the location.

Representativeness: The Location Patents each have only one independent claim, which the FAC uses to explain its theories. D.I. 21, ¶¶60, 74, 88, 102. The Location Patents recite dependent claims that generally have the same subject matter for each of the Location Patents, although the numbering for certain dependent claims changes across the Location Patents. These dependent claims offer trivial variations on the abstract idea that do not change the focus of the claims or introduce an inventive concept: detecting a second location/script (cl. 2), adjusting the scope of analyzed information to include an “operating context,” (cl. 3), having the script modify the character’s health, equipment, or scenes (cls. 4-5, 7), specifying the components of “storylines” (cls. 6), the frequency at which location is detected (cls. 8, 18-19), default content when a storyline cannot be detected (cls. 9-10), the kind of storage or type of gaming device (cls. 11-14), ways to detect location (cl. 15), using a “fantasy” location (cl. 16), using a map (cl. 17), or using a “local element”—including “weather . . . ; social and political environments . . . , marathon runs, local festivals, stock market ups/downs and crashes, elections whether local, state or nation level, local robberies, crime and heists, mafia and related incidents, traffic congestion, accidents, construction, construction related delays etc.” (’284 patent, 1:62-2:6)—to tailor content (cls. 20-28). None of these dependent claims change the focus of the claims from tailoring content based on location, that simply recite insignificant details of the same abstract idea. *CG Tech.*, 442 F. Supp. 3d at 844 (invalidating claims determining “second game configuration” based on “determining a second location of the mobile gaming device”). The dependent claims fail for the same reasons as claim 1. Because the Location Patents merely use a computer to tailor information based on location, they are invalid under § 101.

C. The '710 Patent Claims Are Directed to Patent-Ineligible Subject Matter

Step 1: The '710 Patent's trading claims are just like those criticized by the Supreme Court in *Alice* for simply invoking a computer to facilitate trading. *Alice*, 573 U.S. at 218 (invalidating under § 101 “method of exchanging financial obligations between two parties using a third-party intermediary to mitigate settlement risk”); *see also Bilski v. Kappos*, 561 U.S. 593 (2010) (invalidating method for hedging against the financial risk of price fluctuations as an abstract idea). In *Alice*, the claims used a computer to manage trades, where the computer valued the parties' assets and financial obligations to verify they could afford a trade. *Alice*, 573 at 219-20. In *Bilski*, the claims used a computer to track historical averages of trades and balances to hedge risk caused by price fluctuations. In both cases, the claims were abstract. Here, the '710 patent is directed to the abstract idea of processing data (automatically adjusting pricing based on ratings) to perform trades.

The Federal Circuit has since repeatedly found that claims directed to concepts or steps of “receiving data, storing data, processing data, and executing trades” are abstract. *See, e.g., In re Zimmerman*, No. 2023-1542, 2024 WL 503743, at *2 (Fed. Cir. Feb. 9, 2024); *Trading Techs. Int'l, Inc. v. IBG LLC*, 921 F.3d 1084, 1092 (Fed. Cir. 2019) (“[P]lacing an order based on displayed market information is a fundamental economic practice.”). For example, although the claims in *Trading Technologies* assisted traders by displaying certain information regarding buying/selling items, the Federal Circuit agreed those claims were directed to the abstract idea of “graphing bids and offers to assist a trader to make an order.” *Id.* at 1093. Likewise, claims solving e-commerce problems, rather than technical ones, are abstract. *See, e.g., Fast 101 Pty Ltd. v. CitiGroup Inc.*, 424 F. Supp. 3d 385, 390 (D.I. 22) (D. Del. Jan. 30, 2020), *aff'd* 834 F. App'x 591 (Fed. Cir. 2020); *Finnavations LLC v. Payoneer, Inc. et al.*, No. 18-00444-RGA, 2018 WL 6168618, at *2 (D. Del. Nov. 26, 2018) (claims directed to facilitating record keeping associated

with online financial transactions between network devices were abstract); *cxLoyalty, Inc. v. Maritz Holdings Inc.*, 986 F.3d 1367, 1377 (Fed. Cir. 2021) (invalidating claims over the “longstanding commercial practice” of allowing loyalty program participants to use points as currency with third-party vendors). For this reason, courts have invalidated patents that adjust pricing based on analyzing certain data (*e.g.*, ratings). *SurgeTech, LLC v. Uber Techs. Inc.*, 700 F. Supp. 3d 179, 184 (D. Del. 2023) (claims directed to “utilizing the performance rating to adjust price or re-allocate inventory” are abstract); *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1356 (Fed. Cir. 2016) (invalidating claims that “monitor and analyze data from multiple distinct parts of a power grid”).

As shown below, the claims of the ’710 Patent use a computer to manage trades:

15. A computer-implemented system for trading virtual goods on at least one computing device in communication with a storage medium, comprising:
a game engine programmed for:
providing a game environment accessible by a plurality of players,
including a facility enabling a first player to acquire or develop a
virtual good, the virtual good having a starting value;
receiving via the game environment **at least one rating of the virtual
good** from a second player;
automatically increasing or decreasing the starting value as a function
of the at least one rating of the virtual good;
making the virtual good available for purchase at a new value
representing the automatically increased or decreased starting value;
and
receiving a request from a requesting player to purchase the virtual
good, and **checking whether the requesting player previously rated
the virtual good** prior to allowing a sale of the virtual good to the
requesting player;
the storage medium in communication with the game engine for:
storing the starting value, the at least one rating and the new value.

’710 Patent, cl. 15.

Like *Zimmerman* and *Trading Technologies*, the ’710 Patent’s claims involve “receiving” data about a trade (*e.g.*, a “rating”); “storing” the “value” of an item for trade; “processing” data about the trade (*e.g.*, “automatically” increasing/decreasing “value” as a function of ratings), and

“executing” trades (e.g., “allowing a sale of the virtual good”). Cf. ’710 Pat., Cl. 15. The claims are directed to problems with trading, not computers. Foundational § 101 precedent criticizes claims, like those here, that merely use a computer to receive and process data to execute trading. See, e.g., *Alice*, 573 U.S. at 218; *Zimmerman*, 2024 WL 503743 at *2.

Moreover, “checking” for previous ratings from a prospective buyer is also a fundamental principle of commerce, akin to a store or auction house keeping customer or bidder records. The claims are no less abstract because they check “whether the requesting player previously rated the virtual good,” including because the majority of claims do not actually *do anything* based on that check. See, e.g., *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) (“These are the same questions (though perhaps phrased with different words) that humans in analogous situations detecting fraud have asked for decades, if not centuries. Although FairWarning’s claims require the use of a computer, it is this incorporation of a computer, not the claimed rule, that purportedly ‘improve[s] [the] existing technological process’ by allowing the automation of further tasks.”); *Bozeman Fin. LLC v. Fed. Rsrv. Bank of Atlanta*, 955 F.3d 971, 980 (Fed. Cir. 2020) (invalidating claims directed to “abstract idea of collecting and analyzing information for financial transaction fraud or error detection”). Nor are the claims any no less abstract because they arise in the context of video games. See, e.g., *Inventor Holdings, LLC v. Gameloft, Inc.*, 135 F. Supp. 3d 239, 251 (D. Del. 2015) (invalidating claims permitting merchants to use “unlock codes” to run promotions in mobile device games). Using a computer to manage trading is an abstract idea.

OIP Techs., Inc. v. Amazon.com, Inc. confirms the claims of the ’710 patent are abstract. 788 F.3d 1359, 1362 (Fed. Cir. 2015). There, the claims were directed to the concept of “offer-based price optimization,” which mirrors the abstract idea reflected in the ’710 patent claims that

adjusts a virtual good's purchase price based on user ratings. *Id.*; '713 Patent, cl. 1 ("A method of pricing a product for sale . . . comprising: testing each price of a plurality of prices . . . receive offers for the product based on the offer terms; . . . and to automatically determine, based on said statistics, an estimated outcome of using each of the plurality of prices for the product; selecting a price at which to sell said product based on the estimated outcome"). The Federal Circuit explained that "[t]his concept of 'offer based pricing' is similar to other 'fundamental economic concepts' found to be abstract ideas by the Supreme Court and this court." *Id.*

Every merchant throughout history is familiar with appraisals and haggling. Kids may barter and trade their Halloween candy, increasing the "price" of their Butterfingers or decreasing what they will trade for their Almond Joys based on their friends' reactions. Antiques Roadshow has repeatedly shown someone willing to sell an old bowl from their grandmother's cabinet for \$10, until an appraisal values it at \$1,000. Using a computer to manage trades does not make this age-old practice patentable.

Thus, Claim 15 is directed to the abstract idea of receiving and processing data to manage trades.

Step 2: Whether considered individually or as an ordered combination, the '710 Patent claims fail to recite the "significantly more" needed to demonstrate an inventive concept. *Alice*, 573 U.S. at 221. The '710 Patent's claims recite a generic "computing device in communication with a storage medium." *E.g.*, '710 Pat., Cl. 15. The '710 Patent's "computing device" can be any "computer program product embodied in any tangible medium of expression." '710 Patent at 1:23-36 (discussing how virtual good trading markets have become ubiquitous in the prior art), 3:40-64 (embodiments can be in hardware or software), 4:23-46 (listing "non-exhaustive" list of "exemplary devices"), 6:56-64 ("The virtual world . . . may exist on any type of a gaming

device.”). “[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 223; *see also Trading Techs.*, 921 F.3d at 1094 (claims using computer to “help[] the trader process information more quickly” were “not an improvement to computer functionality”); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (“[C]laim 1 recites “sending a first set of electronic messages over a network to devices,” the devices being ‘programmed to communicate,’ storing test results in a ‘machine-readable medium,’ and ‘using a computerized system ... to automatically determine’ an estimated outcome and setting a price. Just as in *Alice*, ‘all of these computer functions are “well-understood, routine, conventional activit[ies]” previously known to the industry.”). As in *Alice*, the ’710 Patent’s claims “amount to nothing significantly more than an instruction to apply the abstract idea of [trading virtual goods] using some unspecified, generic computer,” which is “not enough to transform an abstract idea into a patent-eligible invention.” 573 U.S. at 225-226 (citations and quotations omitted).

The “checking whether the requesting player previously rated the virtual good prior to allowing a sale” limitation does not change this analysis. ’710 Pat. at Cl. 15. This sort of “check” is not a technical addition—it merely attempts to claim the age-old concept of knowing a customer’s history. The specification indicates that “checking whether the requesting player previously rated the virtual good” may be used for other purposes (“anti-fraud” and “anti-collusion”), (’710 Pat., 2:19-26), but the claims are not so specific. The independent claims (*e.g.*, cl. 15) merely check if a user previously rated the goods—it does not do anything based on that check. Meanwhile, the dependent claims (*e.g.*, cls. 4 and 5) prohibit a sale if the player previously rated the good, but they do not detect for fraud. Even if that concept was claimed, however, that

would not be a technological innovation. It is akin to a pre-computer auction house checking a potential bidder's history to combat fraud.

In short, these claims fail because using a computer to automatically adjust trade prices based on analyzed data is not patentable. *See, e.g., OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (invalidating claims reciting “using a computerized system ... to automatically determine” an estimated outcome and setting a price); *Trading Techs.*, 921 F.3d at 1384 (quoting *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017)) (“[M]ere automation of manual processes using generic computers . . . does not constitute a patentable improvement in computer technology”); *Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359, 1364 (Fed. Cir. 2020) (“[C]laiming the improved speed or efficiency inherent with applying the abstract idea on a computer [is] insufficient to render the claims patent eligible”) (internal quotations omitted).

Representativeness: Plaintiff's FAC chose claim 15 of the '710 Patent as an “example” of its infringement theories, which supports that claim 15 is representative for purposes of § 101. D.I. 21, ¶ 48; *see also Mobile Acuity Ltd. v. Blippar Ltd.*, 110 F.4th 1280, 1293 (Fed. Cir. 2024) (“Limiting the analysis of a § 101 challenge to representative claims is proper when the claims at issue are ‘substantially similar and linked to the same’ ineligible concept.”) (quotation omitted); *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018) (“Courts may treat a claim as representative ... if the patentee does not present any meaningful argument for the distinctive significance of any claim limitations not found in the representative claim.”).

Here, ImagineAR's exemplary claim 15 is representative of the remaining claims of the '710 Patent, which are directed to the same abstract ideas. For example, claim 1 is a narrower method claim that restates the limitations of system claim 15 without a generic “computing

device,” “storage medium” or “game engine.” ’710 Pat., 12:14-37. Similarly, claim 1’s dependent claims add trivial variations on the independent claims—setting the starting value by a player or by default (cls. 2, 3); confirming a player did not previously rate the goods being traded (cls. 4, 5); receiving multiple ratings (cls. 6, 7, 8, 9); considering actions or features of a second player (cls. 10, 11); prompting users “in the course of gameplay” (cls. 12); and the starting value being in “real world” or “game” currency (cls. 13, 14). None of these limitations change the focus of the claims. *See, e.g., Trinity*, 72 F.4th at 1362. Claim 15’s dependent claims fare no better, specifying the location of the generic “game engine” (on a generic “central server” or “game console,” cls. 16, 17), the location or nature of the storage medium (which may be one of several generic “memory” components, cls. 18, 19), whether the game engine checks in “predetermined intervals” (cls. 20, 21, 22) or receives ratings “substantially instantaneously” (cl. 23), and “automatically” adjusting the virtual good’s value (cl. 24). Again, none of these changes the focus of the claims away from the abstract idea of managing trades. *Trinity*, 72 F.4th at 1365 (concluding that dependent claims adding a “match aggregator,” “web server,” and storing “answers in a database” placed abstract idea in a specific context, which “does not change the focus of the asserted claims from an abstract idea”). Because the other claims of the ’710 Patent do not contain technical details that would change the § 101 analysis, all claims of the ’710 Patent are ineligible.

D. The ’592 Patent Claims Are Directed to Patent-Ineligible Subject Matter

Step 1: The ’592 Patent is directed to the abstract idea of tailoring content based on a user’s location. Courts have long criticized patent claims that tailor content based on location as being directed to a patent ineligible abstract idea. *See, e.g., Sanderling Mgmt. Ltd. v. Snap Inc.*, 65 F.4th 698, 703 (Fed. Cir. 2023) (“As the district court articulated, in a formulation we agree with, the claims are directed to the abstract idea “of providing information—in this case, a processing

function—based on meeting a condition,’ e.g., matching a GPS location indication with a geographic location.”).

The Federal Circuit has held that claims for tailoring Internet content based on user’s locations were abstract. *Intell. Ventures I LLC v. Cap. One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015) (“Providing this minimal tailoring—e.g., providing different newspaper inserts based upon the location of the individual—is an abstract idea.”); *see also Evolutionary Intel. v. Sprint Nextel*, 677 F. App’x 679, 680 (Fed. Cir. 2017) (invalidating claims directed to “allowing computers to process data that are dynamically modified upon external-to-the-device information, such as location and time”). It explained that “[t]his sort of information tailoring is a fundamental practice long prevalent in our system.” *Id.* at 1369 (quotations and citations omitted). Recently, the Federal Circuit applied similar reasoning to invalidate claims directed to using a user’s location to conduct remote gaming activities, such as gambling. *Beteiro, LLC v. DraftKings Inc.*, 104 F.4th 1350, 1354 (Fed. Cir. 2024) (citing cases holding that claims “providing particularized information to individuals based on their locations” were abstract); *see also CG Tech. Dev., LLC v. FanDuel, Inc.*, 858 F. App’x 363 (Fed. Cir. 2021) (summarily affirming 442 F. Supp. 3d 840, 849-50 (D. Del. 2020), which found abstract, and nonpatentable, claims directed to “real-world need to address the implications of differing jurisdictions and their effect on permitted game configurations”); *NexRF Corp. v. Playtika Ltd.*, 2022 WL 1513310 (Fed. Cir. 2022) (summarily affirming 547 F. Supp. 3d 977, 991-92 (D. Nev. 2021), which found abstract, and nonpatentable, claims directed to “incentivizing gambling tailored to a user’s location”).

Courts in this District have also been critical of claims that tailor content based on location, even in the context of video games. *CG Tech. Dev., LLC v. FanDuel, Inc.*, 442 F. Supp. 3d 840, 847 (D. Del. 2020) (invalidating claims that determined a “game configuration” with “game

outcomes” based on a user’s mobile device location). Using a computer to “verify a person’s location is, at its core, a ‘method of organizing human activity,’” which is abstract. *GeoComply Sols. Inc. v. Xpoint Servs. LLC*, No. 22-1273-WCB, 2023 WL 1927393, at *6, *21 (D. Del. Feb. 10, 2023) (granting motion to dismiss without leave to amend); *see also CG Technologies*, 442 F. Supp. 3d at 847 (criticizing claims reciting “basic steps of determining the configuration of a game based on the location of a mobile device, a method of organizing human activity”).

Arising in the context of gameplay, the ’592 Patent is similarly directed to the abstract idea of tailoring content based on location, as confirmed by independent claim 1, replicated below:

1. A method of enabling virtual gameplay on a computing device in communication with a storage medium, the method comprising the steps of:
providing a video game environment on the computing device, **enabling a first player to play a game via a character**, the first player being one of a plurality of players which have access to the video game environment, each player having a geographic location;
detecting, via an input device in communication with the computing device, **the first player’s geographic location**, and storing the player’s geographic location on the storage medium; and
in response to the detected geographic location, **retrieving**, via the computing device, **a storyline for the first player’s character** to interact with, the retrieved storyline being related to the geographic location of the first player; and permitting the other players’ characters to interact with the retrieved storyline as long as the first player remains connected to the game;
wherein other storylines are opened and closed to the first player’s character as other players enter and leave the game.

’592 Pat., cl. 1. Whereas the ’592 Patent uses location to display a game “storyline” for players, the patent invalidated in *CG Technology* uses location to present a “game configuration” to players. Both sets of claims are directed to the abstract idea of tailoring content based on the various players’ locations.

As explained in *Intellectual Ventures I*, tailoring content based on location is a fundamental human practice. 792 F.3d at 1369. As the saying goes, “local jokes get local work”—Comedians

or hosts routinely tailor their shows to the audience’s location, claiming how great shows are in that city. Claims involving multiplayer gaming are no less abstract. *Sandbox Software, LLC v. 18Birdies, LLC*, No. CV 18-1649 (MN), 2019 WL 2524780, at *3 (D. Del. June 19, 2019) (describing “playing a multiplayer game” as an “abstract idea” because it is “a form of organizing human activity”). Computerizing an abstract idea—tailoring content based on location—does not make it patent-eligible. *Sanderling*, 65 F.4th at 703 (providing a “processing function” based on user’s location found abstract). Moreover, the ’592 Patent does not explain **how** it accomplishes updating players’ storylines based on location, reinforcing that what is claimed is the abstract idea itself, not a way to solve a technological problem. *See Bot M8 LLC v. Sony Corp. of Am.*, 4 F.4th 1342, 1358 (Fed. Cir. 2021) (claims directed to modifying difficulty of multiplayer game based on previous results were abstract where they “le[ft] open how to accomplish this” and thus “merely recite[d] result-oriented uses of conventional computer devices”) (internal quotation omitted).

Tailoring content based on a player’s location is a classic abstract idea. From storytellers to stand-up comedians to newspapers, people have always tailored stories to a location. Using a computer to present video game storylines based on a user’s location is not patent eligible.

Step 2: There is no inventive concept sufficient to transform the abstract idea of the ’592 Patent. It recites the same generic “computing device in communication with a storage medium” as in the ’710 and ’746 Patents. ’592 Pat., Cl. 1. The ’592 Patent emphasizes that any generic computer will do. *Id.* at 4:4-12, 5:42-45 (the computer may be “a game console”); *id.* at 5:27-32, 8:29-37 (“The virtual world . . . may exist on any type of a gaming device”). The dependent claims of the ’592 patent confirm that “detecting” a player’s location does not require any particular technology and can be as simple as the player providing it, for example, by selecting a drop-down box. *See, e.g., id.*, 3:55-63 (“[T]he player may be permitted to choose from a selection of supported

locations (e.g. previous locations played by that player, or locations of other players already in the game).”), cl. 17 (“...wherein the detecting step includes...player provided location information”). The “Background” of the ’592 Patent explains that “virtual worlds . . . used for massively multiple online role-playing games” including those with “storylines” were conventional and well-known. *Id.* at 1:19-43. Thus, the claims only add the abstract idea of tailoring storylines based on location. *Id.* at 1:19-43.

Furthermore, the elements of the ’592 Patent’s method claims are not inventive because they “are organized in an expected way.” *Trinity*, 72 F.4th at 1366. The claimed method follows the predictable steps of: “detecting... the first player’s geographic location”; “retrieving, via the computing device, a storyline” for that location; and “permitting the other players’ characters to interact with the retrieved storyline.” ’592 Pat., Cl. 1. This is the logical flow of steps—for example, it would not make sense to open a location-based storyline *before* detecting the location.

Representativeness: The ’592 Patent has one independent claim, which the FAC uses to explain its theories. D.I. 21, ¶ 34. The dependent claims offer trivial variations on the abstract idea: detecting a second location and using a second storyline (cls. 2, 3, 4, 16), components of “storylines” (cl. 5, 6, 7, 8, 21), considering demographic or statistics data alongside location (cls. 9, 10, 11), modifying character equipment (cl. 12), permitting interactions among players (cl. 13), opening/closing storylines when players join/leave (cl. 14, 15), ways to detect location (cl. 17), when to detect player locations (cls. 18, 19, 20), where to store data (cls. 22, 23), and using a game or mobile device (cls. 24, 25). None of these changes the focus of the claims from tailoring content based on location. *CG Tech.*, 442 F. Supp. 3d at 844 (invalidating claims determining “second game configuration” based on “determining a second location of the mobile gaming device”). The

dependent claims fail for the same reasons as claim 1. Because the '592 Patent claims merely use a computer to tailor information based on location, they are invalid under § 101.

E. The '746 Patent Claims Are Directed to Patent-Ineligible Subject Matter

Step 1: The '746 Patent claims are similarly invalid under 35 U.S.C. § 101. The '746 Patent claims simply involves “providing a game environment” with an “expectation of action,” “receiving a touch gesture,” comparing the touch to a reference table, and—if the touch was within a predefined range—calling a script. '746 Pat, Cl. 1. Evaluating a user’s gesture, even in the context of a virtual game, is a mental process that can be “performed in the human mind” or “using a pencil and paper,” which is a “telltale sign of abstraction.” *See PersonalWeb Techs. LLC v. Google LLC*, 8 F.4th 1310, 1316 (Fed. Cir. 2021) (citation omitted); *see also Int’l. Bus. Mach. Corp. v. Zillow Grp. Inc.*, 50 F.4th 1371, 1382 (Fed. Cir. 2022). Indeed, the Federal Circuit agreed that claims using a computer to evaluate “touch operation[s]” were abstract, even in the context of a computer game. *GREE, Inc. v. Supercell Oy*, 855 F. App’x 740, 742 (Fed. Cir. 2021) (claims using touch screen and recognizing “operation information regarding a touch operation” were directed to abstract idea of “associating and moving an object on a screen” in a video game, not an improvement to touch-screen technology); *see also In re TLI Commc’ns LLC Pat. Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) (limiting claims to “particular environment—a mobile telephone system” did not make claims non-abstract). Schoolteachers evaluate students’ handwriting, and children play by tracing letters on each other’s backs.

Claim 1 recites abstract notions about evaluating the “fidelity” of a touch gesture that are strikingly similar to the claims invalidated in GREE, as shown below:

'746 Patent, Claim 1	Step	U.S. Patent No. 9,891,799, Claim 1 (invalidated in GREE)
----------------------	------	---

1. A method of enabling gameplay with a character in a game environment on a mobile device, comprising: providing a game environment in which a player can play a game via a character;	Generic Computer Context	1. A computer-implemented method for operating a computer game, the method comprising: . . .
when there is an expectation of action from the character in the game, receiving a touch gesture input on the mobile device;	Receiving touch input	accepting, via an input face configured to detect a touch operation, operation information regarding a touch operation performed by a user;
calculating fidelity of the touch gesture input to an optimal gesture in a reference gesture table; and	Evaluating touch input	associating, using a processor, a plurality of virtual objects as a group; determining, using a processor, whether the operation information comprises a direction operation;
if the fidelity is within a predefined range associated with the optimal gesture, matching the touch gesture input to the optimal gesture and calling an associated game script wherein the character would be shown as having successfully completed the expectation.	Responding to touch input	upon determining that the operation information comprises a direction operation, moving, using a moving processor, one or more of the plurality of associated objects as a group in the direction indicated by the direction operation; . . . displaying , on a computer screen, the new arrangement on the game field of the one or more of the plurality of associated objects moved with the moving processor.

As in *GREE*, these claims are abstract for two core reasons. First, the claims use results-oriented language to describe receiving an input, looking in a table, and identifying the table’s predetermined output for the given input. Claiming results (here, of a touch-gesture input), rather than a specific way of accomplishing those results, is a hallmark of patent-ineligible claims. *Interval Licensing*, 896 F.3d at 1343 (“[A] claimed invention must embody a concrete solution to a problem having ‘the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it.’”) (citation omitted).

Second, the claimed steps simply relate to the generic use of a touch screen. As the Federal Circuit stated in *GREE*, “recognizing a touch and movement operation” is just the “generic functionality of a touch screen.” *GREE*, 855 F. App’x at 743. In *GREE*, that meant that the claims

were directed to the abstract idea of “associating game objects and moving one or more of the objects,” and failed at *Alice* step one. *Id.* at 742. Here, the claims are even more generic, as they encompass not only moving an object, but *any* “game script” upon determination that a gesture meets a certain “fidelity.” Nothing in the claims purports to describe a new touch interface—rather, again as in *GREE*, “[t]he touch interface is merely the mechanism by which the focus of the invention—the movement-based rules comprised of the remaining steps in the claim—is executed.” *Id.* at 742. The ’746 Patent even concedes that video games already used “touch-screen device[s].” ’746 Pat at 1:42-47. The specification provides no new technological ways to receive or evaluate touch gestures, discussing only the abstract result of using a computer to calculate the “fidelity” of those gestures.

Moreover, evaluating the “fidelity” of a touch gesture is an age old concept. Any schoolteacher reviewing a student’s handwriting is accustomed to evaluating how accurate a student’s gestures are compared to what they expected. The same is true for children learning to color within the lines, who may be graded on how well they colored in an outline of a puppy. Using a computer to measure gestures or inputs is not an improvement to computer technology—it is an abstract idea.

Because the claims of the ’746 Patent merely describe using a computer to evaluate touch inputs, they are directed to an abstract idea.

Step 2: There is no “inventive concept” morphing the ’746 Patent’s claims into patentable subject matter. Instead, it relies only on generic concepts and devices like a “game environment” and “mobile device.” *E.g.*, ’746 Pat., Cl. 1. As with the ’710 Patent, the ’746 Patent can be implemented on any generic computing device with a touch screen. ’746 Patent at 4:41-50, 5:25-37. Moreover, the dependent claims confirm that a gesture can be as generic as an “arc” or a

“straight line,” confirming the patent claims capture and preempt even the most basic touch gestures. *See, e.g., id.*, cls. 3, 9-10. Yet the ’746 Patent acknowledges that existing touch screens already employed multi-point gestures to perform various actions, like swiping or pinching on an iPhone, iPad, or Blackberry. *Id.* at 7:7-16; *see also id.* at 5:21-37 (“current methods” can “interact with multipoint touchscreen interfaces”); 6:28-7:6 (detailing “several methods” for “preexisting touch screen implementations”). Similarly, in *Trinity*, the Federal Circuit rejected an argument that permitting “review of matches using swiping”—a type of touch—was a technological improvement that made the claims non-abstract, including because that patent—like the ’746 patent—did not explain why swiping would be inventive and instead assumed that readers would be familiar with that concept. *Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355, 1367 (Fed. Cir. 2023). Thus, the ’746 Patent merely employs generic computer components that are not themselves inventive.

Considering the elements of the ’746 Patent’s claims as an ordered combination does not add anything inventive because they “are organized in an expected way.” *Trinity*, 72 F.4th at 1366. The claimed method follows predictable steps of: expecting an action from the player; receiving the action (“touch gesture”); evaluating the action (“calculating fidelity of the touch gesture”); and then taking an action (“calling an associated game script”) in response. ’746 Pat., Cl. 1.

Representativeness: The FAC identifies the ’746 Patent’s only independent claim to explain its infringement theories (D.I. 21, ¶ 20). The dependent claims do not add technical limitations, instead reciting variations on the same abstract idea that do not change the focus of the claims. *Trinity*, 72 F.4th at 1362. They relate to, for example, detecting “suboptimal” gestures (cl. 2, 17), multi-part gestures (cl. 3), considering static or dynamic objects (cl. 4, 19), considering the speed of the user’s touch (cl. 5), timing of the touch (cl. 6), multiple touches (cls. 7, 8), kinds of

actions represented by touch (cls. 9, 10, 11, 12, 21, 22, 27, 28), “not perfectly” shaped touches (cls. 13, 14), using a range of angles (cl. 15), considering “game context” (cls. 16, 17, 18), interacting with objections (cls. 23, 24), and where data is stored (cls. 25, 26). These claims lack any improvements to computer technology, such as a new touch interface, and instead just claim various ways to use touch inputs. *Cf. GREE*, 855 F. App’x at 742 (invalidating claims where “[t]he touch interface claimed is merely the mechanism” for the abstract idea).

Because the ’746 Patent claims are directed to the abstract idea of using a touchscreen, without any inventive concept, they are invalid under § 101.

Dated: August 28, 2025

OF COUNSEL:

Sarah E. Piepmeier
Nathan Sabri
Perkins Coie LLP
505 Howard Street, Suite 1000
San Francisco, California 94105-3204
(415) 344-7000
SPiepmeier@perkinscoie.com
NSabri@perkinscoie.com

Andrew Ohlert
Perkins Coie LLP
1201 Third Avenue, Suite 4900
Seattle, WA 98101-3099
(206) 359-3058
AOhlert@perkinscoie.com

Abigail Gardner
Perkins Coie LLP
11452 El Camino Real, Suite 300
San Diego, CA 92130-2080
(858) 284-5510
AGardner@perkinscoie.com

Matt Lutz
Perkins Coie LLP
2525 E. Camelback Road, Suite 500
Phoenix, AZ 85016
(602) 351-8068
MLutz@perkinscoie.com

/s/ Sara M. Metzler
Kelly E. Farnan (#4395)
Sara M. Metzler (#6509)
Richards, Layton & Finger, P.A.
One Rodney Square
920 North King Street
Wilmington, DE 19801
(302) 651-7700
farnan@rlf.com
metzler@rlf.com
Attorneys for Defendant Niantic, Inc.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the above and foregoing document has been served on August 28, 2025 to all counsel of record, via e-mail only.

/s/ Nelo Keith Lang

Nelo Keith Lang