

1) Family number: 63579125 (US2015302643A)

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Title: STRESS REDUCTION IN GEOMETRIC MAPS OF PASSABLE WORLD MODEL IN AUGMENTED OR VIRTUAL REALITY SYSTEMS

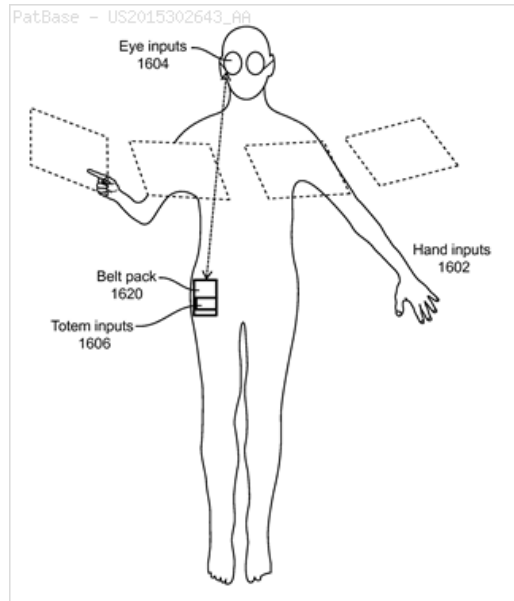
Abstract: An augmented reality display system comprises a passable world model data comprises a set of map points corresponding to one or more objects of the real world. The augmented reality system also comprises a processor to communicate with one or more individual augmented reality display systems to pass a portion of the passable world model data to the one or more individual augmented reality display systems, wherein the piece of the passable world model data is passed based at least in part on respective locations corresponding to the one or more individual augmented reality display systems.

Classifications:

International (IPC 8-9): A63F13/56 A63F13/57 A63F13/577
G02B27/00 G02B27/01 G06F3/00 G06F3/01 G06F3/03 G06F3/0481
G06F3/0484 G06F3/0487 G06F3/16 G06K9/00 G06Q30/02
G06T11/60 G06T13/40 G06T13/80 G06T15/10 G06T19/00 G06T7/60
G06T7/70 (Advanced/Invention)

CPC: G06T19/003 G06T2200/04 G02B27/0093 G02B27/0101
G02B27/0179 G02B2027/0138 G06F3/014 G06F3/16 G06K9/00214
G06K9/00671 G06T7/60 G06T11/60 G06T15/10 A63F13/56
A63F13/57 G06F3/167 G02B27/0172 G02B2027/014 G02B2027/0178
G02B2027/0187 G06F3/011 G06F3/012 G06K9/00664 G06Q30/02
G06T7/70 H04S7/304 H04S2400/11 H04S2400/15 A63F13/577
G02B27/017 G06F3/005 G06F3/013 G06F3/016 G06F3/017
G06K9/00577 G06T13/40 G06T13/80 G06T19/006 G06T2213/08
G06T2215/16 G06T2219/024

US: 345/633



Family:

Publication number	Publication date	Application number	Application date
US2015302643 AA	20151022	US20150705989	20150507
US9984506 BB	20180529	US20150705989	20150507

Priority:

US20140981701P 20140418 US20140012273P 20140614 US20140331218 20140714
US20150690401 20150418 US20150705989 20150507

Probable Assignee: MAGIC LEAP INC

Assignee(s): (std): MAGIC LEAP INC

Assignee(s): CITIBANK NA ; JP MORGAN CHASE BANK NA

Inventor(s): (std): MILLER SAMUEL A

Agent(s): VISTA IP LAW GROUP LLP

2) Family number: 62153192 (US2016109940A)

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Title: ELECTRONIC DEVICE DISPLAYS AN IMAGE OF AN OBSTRUCTED TARGET

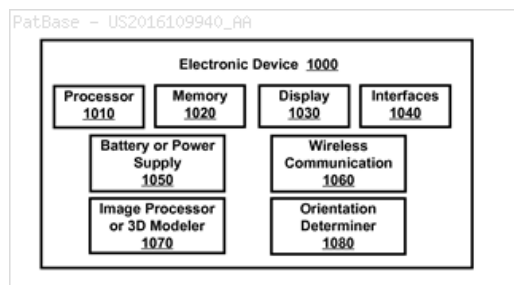
Abstract: An electronic device determines information about a target and provides the information to another electronic device that has an obstructed view of the target. The other electronic device displays an image of the target with an orientation and a location of the target.

Classifications:

International (IPC 8-9): A63F13/31 A63F13/843 G06F3/01
H04W4/02 (Advanced/Invention)

CPC: G06F3/011 H04W4/023

US: 1/1 463/2 463/32



Family:

Publication number	Publication date	Application number	Application date
US2016109940 AA	20160421	US20150823542	20150811
US2018052511 AA	20180222	US20170784230	20171016
US2019155375 AA	20190523	US20190252729	20190121
US2020012339 AA	20200109	US20190575425	20190919
US2020012340 AA	20200109	US20190575426	20190919
US2020042079 AA	20200206	US20190596874	20191009
US2020042080 AA	20200206	US20190599106	20191010
US2020050261 AA	20200213	US20190654063	20191016
US2020064910 AA	20200227	US20190672406	20191101
US2020081522 AA	20200312	US20190686104	20191116
US2020097072 AA	20200326	US20190695126	20191125
US2020097073 AA	20200326	US20190695129	20191125
US9791919 BB	20171017	US20150823542	20150811
US10191538 BB	20190129	US20170784230	20171016

Priority:

US20140065672P	20141019	US20150823542	20150811	US20170784230	20171016
US20190252729	20190121	US20190575425	20190919	US20190575426	20190919
US20190596874	20191009	US20190599106	20191010	US20190654063	20191016
US20190672406	20191101	US20190686104	20191116	US20190695126	20191125
US20190695129	20191125				

Probable Assignee: LYREN PHILIP

Assignee(s): (std): LYREN PHILIP ; LYREN ROBERT

Inventor(s): (std): LYREN PHILIP ; LYREN ROBERT

3) Family number: 56341523 (US2014118339A)

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Title: AUTOMATED FRAME OF REFERENCE CALIBRATION FOR AUGMENTED REALITY

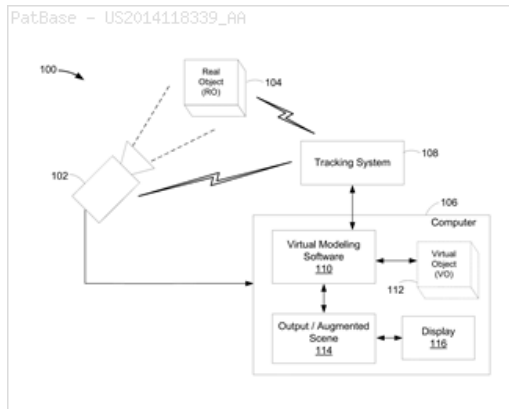
Abstract: One or more systems, methods, routines and/or techniques for automated frame of reference calibration for augmented reality are described. One or more systems, methods, routines and/or techniques may allow for calibration of an Augmented Reality (AR) system, for example, by automatically calibrating the frames of reference of virtual objects and/or a camera. One example calibration routine and/or technique may determine and/or calculate a mapping or transform from a frame of reference of a virtual object (e.g., a CAD model) to a coordinate frame associated with the tracking system. Another example calibration routine and/or technique may determine and/or calculate a mapping or transform from a camera lens frame of reference to a frame of reference of the whole camera as determined by a tracking system. These routines and/or techniques may calibrate an AR system to provide rapid, precise alignment between virtual content and a live camera view of a real scene.

Classifications:

International (IPC 8-9): G06F19/00 G06T G06T15/00 G06T15/10 G06T17/00 G06T19/00 G06T3/00 G06T3/60 G06T7/00 G06T7/0018 G06T7/20 H04N13/00 H04N5/225 H04N5/262 H04N5/272 (Advanced/Invention)

CPC: G06T7/74 G06T7/80 G06T19/006 G06T2207/30204 G06T2207/30244 G06T15/10 G06T3/60

US: 1/1 345/419



Family:

Publication number	Publication date	Application number	Application date
AU2013224660 AA	20140515	AU20130224660	20130904
AU2013224660 BB	20190307	AU20130224660	20130904
BR102013027358 A2	20141021	BR20131027358	20131024
CA2825834 AA	20140430	CA20132825834	20130830
CA2825834 C	20180102	CA20132825834	20130830
CN103793936 A	20140514	CN201310529549	20131031
CN103793936 B	20181214	CN201310529549	20131031
EP2728548 A2	20140507	EP20130190010	20131024
EP2728548 A3	20171108	EP20130190010	20131024
GC7806 A	20180522	GC2013P025664	20131029
IN02614DE2013 A	20150220	IN2013DE02614	20130904
JP2014167786 A2	20140911	JP20130222976	20131028
JP6223122 B2	20171101	JP20130222976	20131028
KR102110123 B1	20200514	KR20130113027	20130924
KR20140055975 A	20140509	KR20130113027	20130924
RU2013148372 A	20150510	RU20130148372	20131030
RU2651239 C2	20180418	RU20130148372	20131030
RU2651239 C9	20180822	RU20130148372	20131030
SG10201603284R A1	20160629	SG20161003284	20130911
SG2013068408 A1	20140529	SG20130068408	20130911
US2014118339 AA	20140501	US20120665837	20121031
US9508146 BB	20161129	US20120665837	20121031

Priority:

US20120665837 20121031

Probable Assignee: BOEING CO**Assignee(s):** (std): BOEING CO ; ZE BOING KOMPANI**Assignee(s):** DAVIES PAUL R ; LEE DAVID K ; THE BOEING COMPANY**Inventor(s):** (std): DAVID K LEE ; DAVIES PAUL R ; LEE DAVID K ; PAUL R DAVIES ; LI DEVID K ; DEVIS POL R**Inventor(s):** PAUL R ; LEE ; DAVIES ; DAVID K**Agent(s):** SPRUSON AND FERGUSON; SMART AND BIGGAR; BOULT WADE TENNANT; SAUD M A SHAWWAF LAW OFFICE; PATENTIKA; SPRUSON AND FERGUSON ASIA PTE LTD; DREW AND NAPIER LLC; KUNZLER LAW GROUP PC**Designated states:** AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR**4) Family number: 55322597 (US2013328927A)**

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Title: AUGMENTED REALITY PLAYSPACES WITH ADAPTIVE GAME RULES

Abstract: A system for generating a virtual gaming environment based on features identified within a real-world environment, and adapting the virtual gaming environment over time as the features identified within the real-world environment change is described. Utilizing the technology described, a person wearing a head-mounted display device (HMD) may walk around a real-world environment and play a virtual game that is adapted to that real-world environment. For example, the HMD may identify environmental features within a real-world environment such as five grassy areas and two cars, and then spawn virtual monsters based on the location and type of the environmental features identified. The location and type of the environmental features identified may vary depending on the particular real-world environment in which the HMD exists and therefore each virtual game may look different depending on the particular real-world environment.

Classifications:

International (IPC 8-9): A63F13/213 A63F13/25 A63F13/32
A63F13/335 A63F13/40 A63F13/53 A63F13/65 G06F3/16 G06T19/00
G06T19/20 G06T3/40 G06T7/60 G09G5/00 (Advanced/Invention)
CPC: G06T19/006 A63F2300/30 A63F2300/6676 A63F2300/69
G06T19/20 G06T2219/2016 A63F13/10 A63F13/53 G06T7/60
G06T3/40 G06F3/167 A63F13/25 A63F13/213 A63F13/65 A63F13/32
A63F13/335 G06T2200/04 A63F2300/8082 A63F2300/407 G06F3/017
G06F3/011 G06F3/0304
US: 1/1 345/633

**Family:**

Publication number	Publication date	Application number	Application date
US2013328927 AA	20131212	US20120689378	20121129
US2016350978 AA	20161201	US20160234607	20160811
US9454849 BB	20160927	US20120689378	20121129
US10062213 BB	20180828	US20160234607	20160811

Priority:

US20110288350 20111103

US20120689378 20121129

US20160234607 20160811

Probable Assignee: MICROSOFT CORP**Assignee(s):** (std): BENNETT DARREN ; GEISNER KEVIN A ; HASTINGS RYAN L ; LATTA STEPHEN G ; MCCULLOCH DANIEL J ; MICROSOFT TECHNOLOGY LICENSING LLC ; MOUNT BRIAN J ; SCAVEZZE MICHAEL J ; SCOTT JASON ; STEED JONATHAN T ; MICROSOFT TECH LICENSING LLC**Assignee(s):** MICROSOFT CORP**Inventor(s):** (std): BENNETT DARREN ; GEISNER KEVIN A ; HASTINGS RYAN L ; LATTA STEPHEN G ; MCCULLOCH DANIEL J ; MOUNT BRIAN J ; SCAVEZZE MICHAEL J ; SCOTT JASON ; STEED JONATHAN T**Agent(s):** MICKY; DAN; ARENT FOX LLP**5) Family number: 51107692 (US2012122570A)**

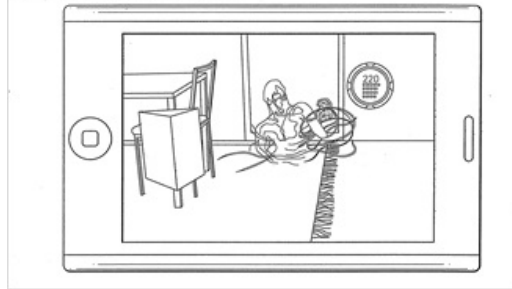
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Title: AUGMENTED REALITY GAMING EXPERIENCE

Abstract: A persistent, multi-player game, most likely story-based, involving the use of a smart phone, cell phone and/or other wireless device (while remaining multi-platform in nature), where the gaming and story may be tied to the location of the smart phone, cell phone and/or other wireless device (while remaining multi-platform) as held by the human gamer (who may or may not utilize a customizable avatar), and where the smart phone, cell phone and/or other wireless device (and/or other platform) provides, among other things, video, voice, text and audio to the human gamer, thereby enriching the game and story and the gamer's interaction with his or her environment, including, perhaps, but by no means being limited to, other gamers, real world actors, the conversion of a person, place and/or thing into a game component via "augmented reality" technology, tradable items and/or sponsors.

Classifications:

International (IPC 8-9): A63F13/10 A63F13/12
G06F17/00 (Advanced/Invention)
CPC: A63F13/655 A63F13/69 A63F13/79 A63F13/213 A63F13/35
A63F13/5255 A63F13/53 A63F13/533 A63F13/54 A63F13/792
A63F13/822 A63F13/92 A63F2300/575 A63F2300/8082 A63F13/216
A63F2300/5573 A63F2300/609 A63F2300/6676 A63F2300/695
A63F13/52
European: A63F13/10 A63F13/12 K63F300/55P4 K63F300/60U
K63F300/66V2 K63F300/69 K63F300/69P
US: 463/31 463/31P

**Family:**

Publication number	Publication date	Application number	Application date
US2012122570 AA	20120517	US20100947439	20101116
WO12068256 A2	20120524	WO2011US61004	20111116
WO12068256 A3	20130124	WO2011US61004	20111116

Priority:

US20100947439 20101116

Probable Assignee: BARONOFF DAVID MICHAEL**Assignee(s):** (std): BARONOFF DAVID MICHAEL**Inventor(s):** (std): BARONOFF DAVID MICHAEL**Agent(s):** GRUNBERGER AARON ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW