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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/491,140	09/19/2014	Robert Giometti	5000-0160 (2013-13)	6984
107849	7590	06/28/2016	EXAMINER	
SkyCross Docket Guntin & Gust, PLC 117 S. Cook St. No. 358 Barrington, IL 60010			JEN, MINGJEN	
			ART UNIT	PAPER NUMBER
			3664	
			NOTIFICATION DATE	DELIVERY MODE
			06/28/2016	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ggip.com  
jpalmer@tamarackassoc.com

<b>Office Action Summary</b>	<b>Application No.</b> 14/491,140	<b>Applicant(s)</b> GIOMETTI ET AL.	
	<b>Examiner</b> IAN JEN	<b>Art Unit</b> 3664	<b>AIA (First Inventor to File) Status</b> Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 03/23/2016.  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
- 2a)  This action is **FINAL**.                      2b)  This action is non-final.
- 3)  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims\***

- 5)  Claim(s) 1-20 is/are pending in the application.  
5a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 6)  Claim(s) \_\_\_\_\_ is/are allowed.
- 7)  Claim(s) 1-16 is/are rejected.
- 8)  Claim(s) \_\_\_\_\_ is/are objected to.
- 9)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

**Application Papers**

- 10)  The specification is objected to by the Examiner.
- 11)  The drawing(s) filed on 09/19/2014 is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a)  All    b)  Some\*\*    c)  None of the:
1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 3)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 4)  Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. This action is in response to the remark entered on March 23<sup>rd</sup>, 2016.
2. Claims 1 – 20 are pending in current application.
3. Claims 1, 4, 11 and 17 are amended.
4. Claims 17 – 20 are currently withdrawn
5. The information disclosure statement (IDS) submitted is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:
  1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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8. Claims 1 – 16 are rejected under 35 U.S.C. 103 as being unpatentable over Smith et al (US Pat Pub No. 2008/0091350) in view of Tomek et al (US Pat Pub No. 2014/0200050).

As for claims 1 and 11, Smith et al shows a method comprising: detecting a location of a communication device by a base station comprising a processor (See at least Para 0047, 0050 and 0126 for TRINAV system including TPS RF receiver 202 on at least para 0063 implementing microprocessor detecting communication device location using adaptive GPS receiver 203 also shown on figure 2 on Para 0054); determining from the location of the communication device a first set of coordinates corresponding to an alternate location by the base station ( See at least Para 0078 - 0089 for TPS receiver determining transmitter location as first set of coordinate alternatively with respect to transmitter location ), an improved quality of communications is provided to the communication device at the alternate location ( See at least Para 0091 for reconverted Longitude, Latitude, Height, LLH format coordinate, Para 0056 provided to TSP user; See also Para 0049 for TPS assess signal quality and unit health for employed within receiver to validate GPS position for spoofing error in the GPS fix ); transmitting the first set of coordinates to the communication device by the base station (See at least Para 0091 for reconverted Longitude, Latitude, Height, LLH format coordinate, Para 0056 provided to TSP user, Para 0067, by TRINAV system including TPS RF receiver 202 on at least Para 0047,0050 and 0126 ); wherein the alternate location is different from a location of the base station and the location of the communication device ( See at least Para 0066 where states TPS system can produce three-dimensional readings as the alternative location; See also Para 0078 where states, “To determine user position in three dimensions... resulting in at least four

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simultaneous ranging equations with four unknowns...to determine the values of x, y, z (the 3-dimensional location of the user's receiver)...to determine the unknown quantities. The user position/location were determined in x, y and z three dimensional values which was created and originated from four unknown quantities determination alternatively but not only recalculated and converted. Also on at least Para 0050 for the TPS location, alternative location, and GPS location do not essentially coincide (i.e., where the GPS solution is considerably off from the TPS). In FIG. 3, the potential solution zones are shown for both GPS and TPS, where the simplification is made so that five transmitters' signals are being processed for each system...the GPS indicates a much different position); however, Smith et al does not further explicitly states that the communication device having a quality of communications associated with the location.

Tomek et al shows the communication device having a quality of communications associated with the location (See at least Para 0002 where states the signal strength received by a mobile device and resulting quality can vary at a location for each cellular or mobile wireless network technology. However, typically only one signal quality indicator displayed to the user in a single visual set of signal quality or signal bars, which is usually the primary or faster access data network).

It would have been obvious for one of ordinary skill in the art, to provide location quality indication as taught by Tomek at the time of invention, for the signal location correction of Smith et al, in order to provide quantitative signal location measurement corrected as desired by Smith et al.

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As for claim 2, Smith et al shows the communication device presents navigation information comprising instructions for navigating from the location of the communication device to the alternate location ( See at least Para 0215 for navigation aid for providing direction heading orientation ).

As for claim 3, Smith et al shows the navigation information comprises a geographical feature at the alternate location (See at least Para 0091 for reconverted Longitude, Latitude, Height, LLH format coordinate, Para 0056).

As for claim 4, Smith et al shows the determining is performed based on communications quality data associated with a plurality of locations in a service area of the base station (See at least Para 0067 for group of transmitter on the surface of earth), the communications quality data being stored in a storage device coupled to the base station ( See at least Para 0054 for signal assessment for QoS monitoring ), and improved communications between the communication device and the base station are provided at the alternate location ( See at least Para 0093 for TSP positioning precision from 0.35 down 0.09 ); however, Smith et al does not further explicitly states that the quality of communication is associated between the communication device and the base station.

Tomek et al shows quality of communications associated between the communication device and base station (See at least Para 0002 where states the signal strength received by a mobile device and resulting quality can vary at a location for each cellular or mobile wireless

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network technology. Also on Para 0033 for base station 302 and 304 for different access network).

It would have been obvious for one of ordinary skill in the art, to provide quality indication as taught by Tomek at the time of invention, for the signal location correction of Smith et al, in order to provide quantitative signal measurement for the location corrected as desired by Smith et al.

As for claim 5, Smith et al shows the detecting further comprises detecting a communications quality indication relating to the location of the communication device (See at least Para 0054 for signal assessment for QoS monitoring; See also Para 0093 for TSP positioning precision from 0.35 down 0.09), and further comprising adding the location of the communication device and the communications quality indication to the communications quality data (See at least Para 0054 for signal assessment for QoS monitoring also on Para 0067 for group of transmitter on the surface of earth ).

As for claim 6, Smith et al shows the communications quality data further includes communications quality data associated with a second plurality of locations in a second service area of a second base station (See at least Para 0054 for signal assessment for QoS monitoring also on Para 0067 for group of transmitter on the surface of earth ).

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As for claim 7, Smith et al shows the first set of coordinates corresponds to a location in the second service area (See at least Para 0078 - 0089 for TPS receiver determining transmitter location as first set of coordinate alternatively with respect to transmitter location).

As for claims 8 and 16, Smith et al shows transmitting to the communication device a second set of coordinates corresponding to a location of the base station, the communication device (See at least Para 0078 - 0089 for TPS receiver determining transmitter location as first set of coordinate alternatively with respect to transmitter location ), responsive to receiving the second set of coordinates (See at least Para 0078 - 0089 for TPS receiver determining transmitter location as first set of coordinate alternatively with respect to transmitter location ), adjusts an antenna mode of the communication device from omnidirectional mode to beamforming mode ( See at least Para 0066 for transmitter array ).

As for claim 9, Smith et al shows the communication device presents direction information comprising an instruction for directing the communication device relative to the base station (See at least Para 0215 for navigation aid for providing direction heading orientation ).

As for claim 10, Smith et al shows the communication device presents orientation information comprising an instruction for orienting the communication device (See at least Para 0215 for navigation aid for providing direction heading orientation).



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As for claim 12, Smith et al shows the determining is performed based on communications quality data associated with a plurality of locations in a service area of the base station, and wherein the alternate location is in the service area of the base station (See at least Para 0054 for signal assessment for QoS monitoring; See also Para 0093 for TSP positioning precision from 0.35 down to 0.09).

As for claim 13, Smith et al shows the base station is a first base station having a first service area (See at least figure 3 for multiple service area), the determining is performed based on communications quality data associated with a plurality of locations in the first service area (See at least Para 0054 for signal assessment for QoS monitoring; See also Para 0093 for TSP positioning precision from 0.35 down 0.09 ) and in a second service area of a second base station remote from the first base station, and wherein the alternate location is in the second service area ( See at least Para 0054 for signal assessment for QoS monitoring; See also Para 0093 for TSP positioning precision from 0.35 down 0.09).

As for claim 14, Smith et al shows the communication device presents navigation information comprising instructions for navigating from the location of the communication device to the alternate location (See at least Para 0215 for navigation aid for providing direction heading orientation ).

As for claim 15, Smith et al shows the navigation information comprises a landmark corresponding to the alternate location (See at least Para 0066 for transmitter array).

### ***Response to Arguments***

In response to applicant's remark that Smith et al merely shows coordinates for the receiver's location may be recalculated and converted but does not determining a different alternative location as recited; however, applicant's remark does not particularly accurate.

In this instant case, applicant's attention is directed Paragraph 0078 of Smith et al, where states, "To determine user position in three dimensions, range measurements are made to multiple transmitters, resulting in at least four simultaneous ranging equations with four unknowns. These equations can be solved by computational algorithms to determine the values of x, y, z (the 3-dimensional location of the user's receiver), and  $A_t$ , which is a clock error. There are several closed-form solutions available for solving the equation to determine the unknown quantities. The positioning is in general accomplished by determining the time-of-flight of the signals from at least 4 TPS transmitters".

Thus, it is noted that not only the receiver's location is recalculated and converted, but also the user position/location were determined in x, y and z three dimensional values which was created and originated form four unknown quantities (four receiver's locations) and determined alternatively and additionally upon four unknowns.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IAN JEN whose telephone number is (571)270-3274. The examiner can normally be reached on Monday - Friday 9:00-6:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Koi Tran can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Ian Jen/

Primary Examiner, Art Unit 3664