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Taylor et al.

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(54) **TRACKING IMPLEMENTING
GEOPOSITIONING AND LOCAL MODES**

2006/0170591 A1 8/2006 Houri
2007/0005243 A1 1/2007 Horvitz et al.
2007/0024450 A1 2/2007 Shichiku et al.
2009/0009397 A1 1/2009 Taylor et al.

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FOREIGN PATENT DOCUMENTS

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CN 1403832 A 3/2003
CN 1755391 A 4/2006
DE 10346596 5/2005
EP 1443341 A1 8/2004
JP H1183529 A 3/1999
JP 2002296340 A 10/2002
JP 2003065780 A 3/2003
JP 2005086579 A 3/2005

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1202 days.

(Continued)

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OTHER PUBLICATIONS

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(65) **Prior Publication Data**

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(51) **Int. Cl.**
G01S 3/02 (2006.01)
G01S 19/49 (2010.01)

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(52) **U.S. Cl.**
USPC **342/451**; 342/357.32

(57) **ABSTRACT**

(58) **Field of Classification Search**
USPC 342/357.01, 357.14, 443, 457,
342/463–465, 451, 357.25, 357.32;
455/456.1, 456.2

A wireless device provides location data concerning an object by use of geolocation in order to provide distance tracking and local location techniques in order to provide local tracking. The geolocation and local location techniques may be implemented at the same time or individually, reconfigurable on demand, in both the tracking and tracked devices. The tracked wireless device includes a wireless communication circuit capable of communication with a multiuser wireless subscriber network. A geolocation reading circuit provides GPS or similar location data and is capable of obtaining geolocation data concerning the object. A local locating device parses local location data, and an indication is provided of geolocation based on the geolocation data, and is further responsive to the local location data which is used to modify the geolocation data with the local location data.

See application file for complete search history.

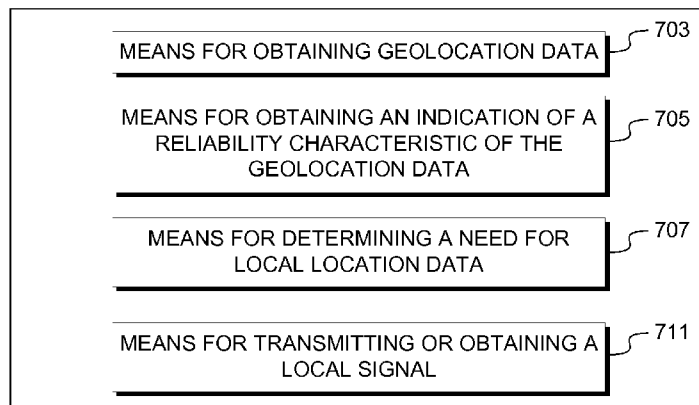
(56) **References Cited**

37 Claims, 8 Drawing Sheets

U.S. PATENT DOCUMENTS

5,554,993 A 9/1996 Brickell
5,936,572 A 8/1999 Loomis et al.
6,801,129 B2 10/2004 Grimm
6,907,238 B2 6/2005 Leung
6,928,292 B2 8/2005 Tsunehara et al.
7,015,817 B2 3/2006 Copley et al.
2003/0063000 A1* 4/2003 Grimm 340/568.7
2005/0192741 A1 9/2005 Nichols et al.

700



(56)

References Cited

OTHER PUBLICATIONS

FOREIGN PATENT DOCUMENTS

JP	2005216128 A	8/2005
JP	2006524316 A	10/2006
JP	2006350869 A	12/2006
WO	9801769	1/1998
WO	WO0068907	11/2000
WO	WO02086533 A2	10/2002

Written Opinion, PCT/US08/066446, International Search Authority, European Patent Office, Oct. 20, 2008.
European Search Report—EP10158015, Search Authority—The Hagu Patent Office, Aug. 27, 2010.
Partial European Search Report—EP10158015—Search Authority—Hague—Aug. 27, 2010.

* cited by examiner

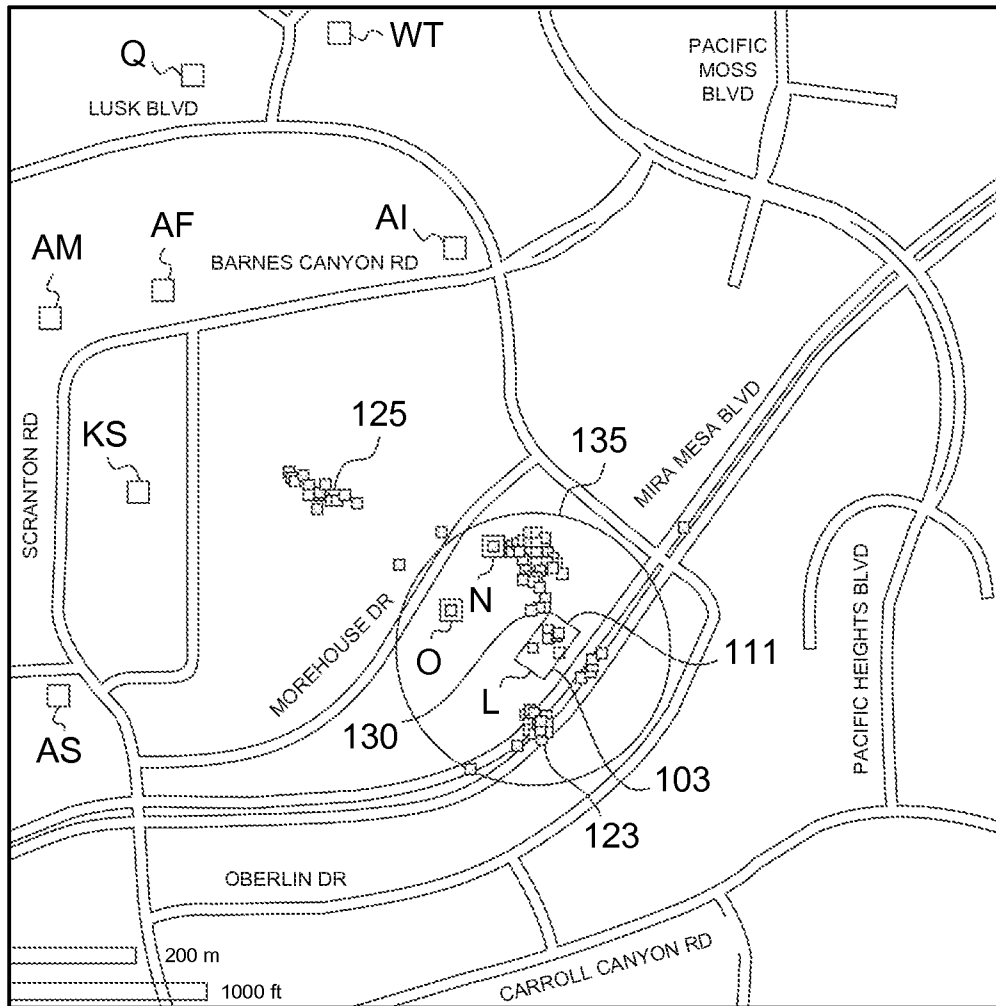


FIG. 1

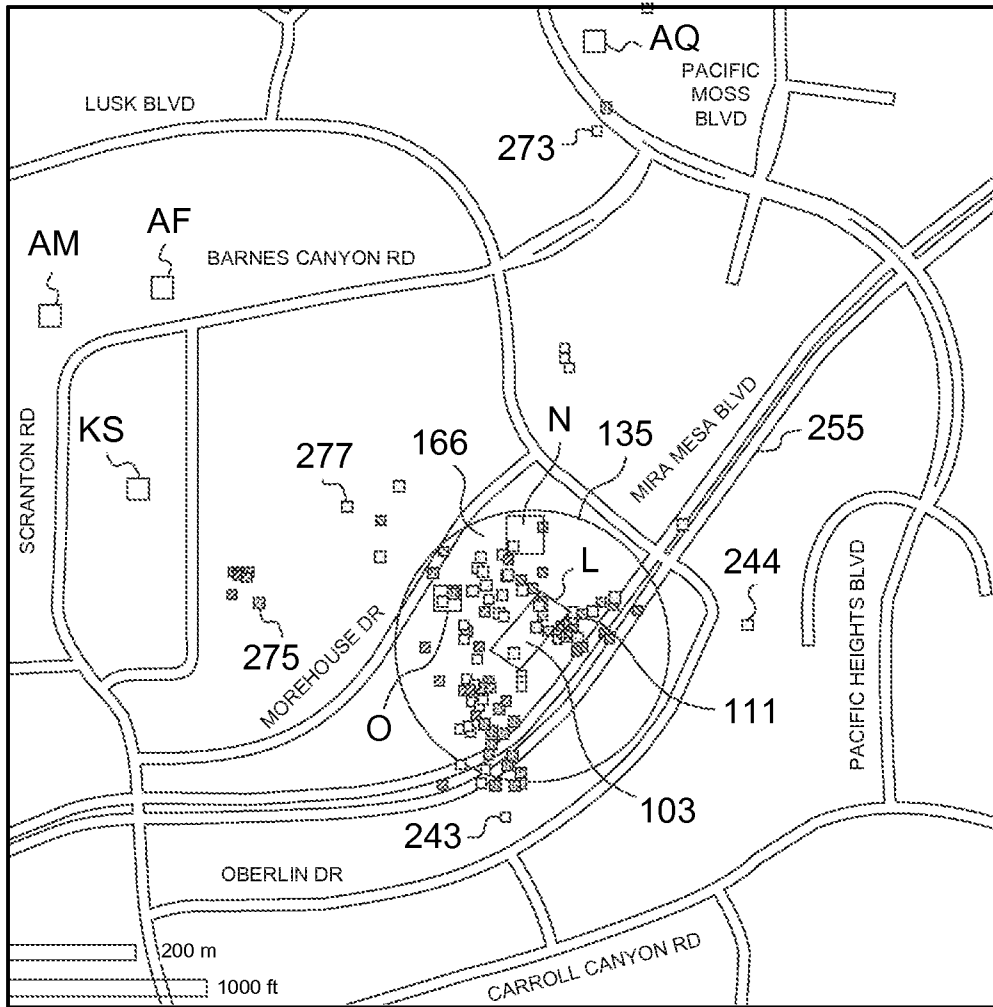


FIG. 2

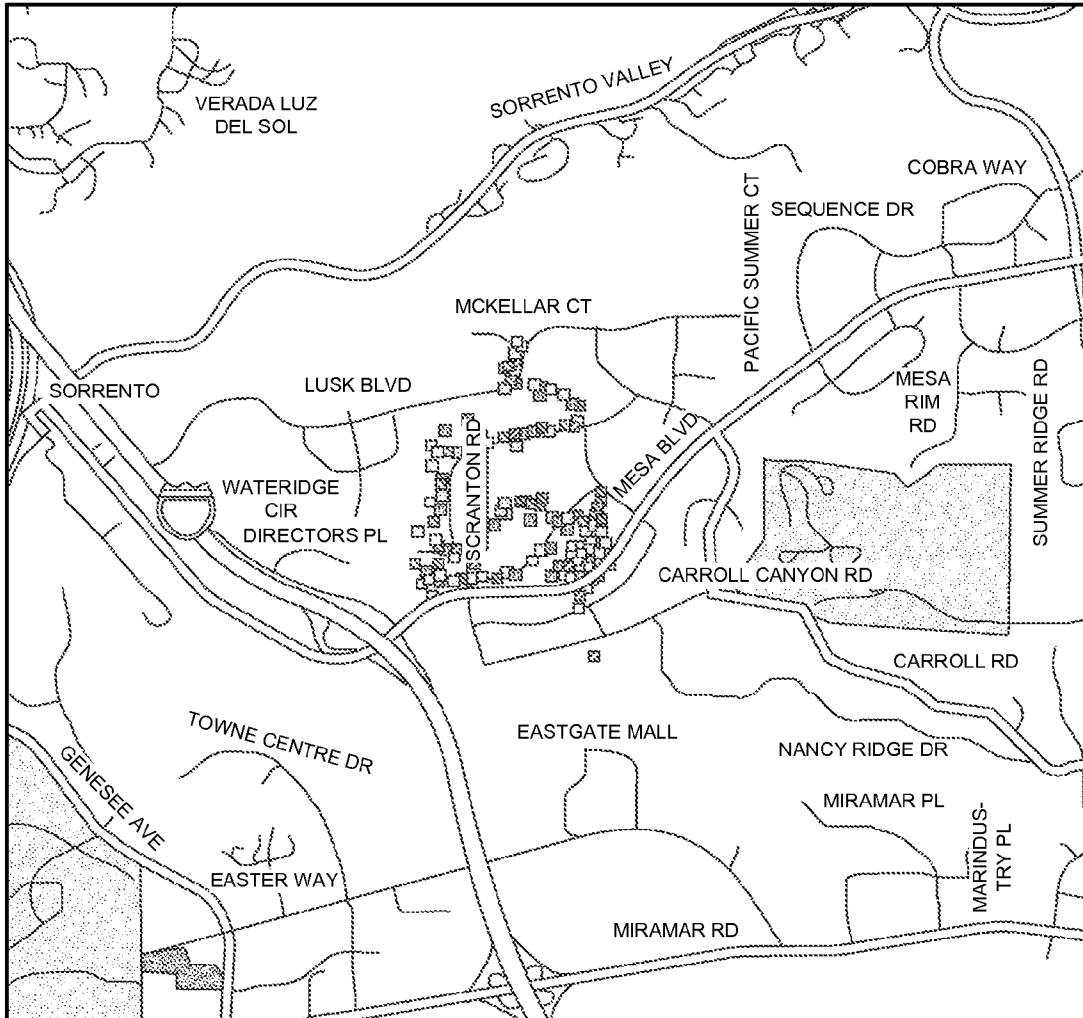


FIG. 3a

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