



US008797214B2

(12) **United States Patent**  
**Taylor et al.**

(10) **Patent No.:** **US 8,797,214 B2**  
(45) **Date of Patent:** **Aug. 5, 2014**

(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.

(75) Inventors: **Kirk S. Taylor**, San Diego, CA (US);  
**Jack Steenstra**, San Diego, CA (US);  
**Liren Chen**, San Diego, CA (US)

**FOREIGN PATENT DOCUMENTS**

(73) Assignee: **QUALCOMM Incorporated**, San Diego, CA (US)

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)

(21) Appl. No.: **11/774,535**

**OTHER PUBLICATIONS**

(22) Filed: **Jul. 6, 2007**

International Search Report, PCT/US08/066446, International Search Authority, European Patent Office, Oct. 20, 2008.

(65) **Prior Publication Data**

(Continued)

US 2009/0009398 A1 Jan. 8, 2009

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

*Primary Examiner* — Dao Phan  
(74) *Attorney, Agent, or Firm* — Thien T. Nguyen

(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.

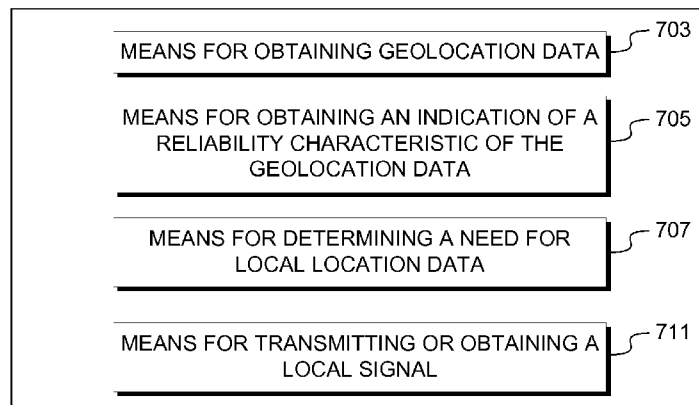
(56) **References Cited**

**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.

**37 Claims, 8 Drawing Sheets**

700



(56)

References Cited

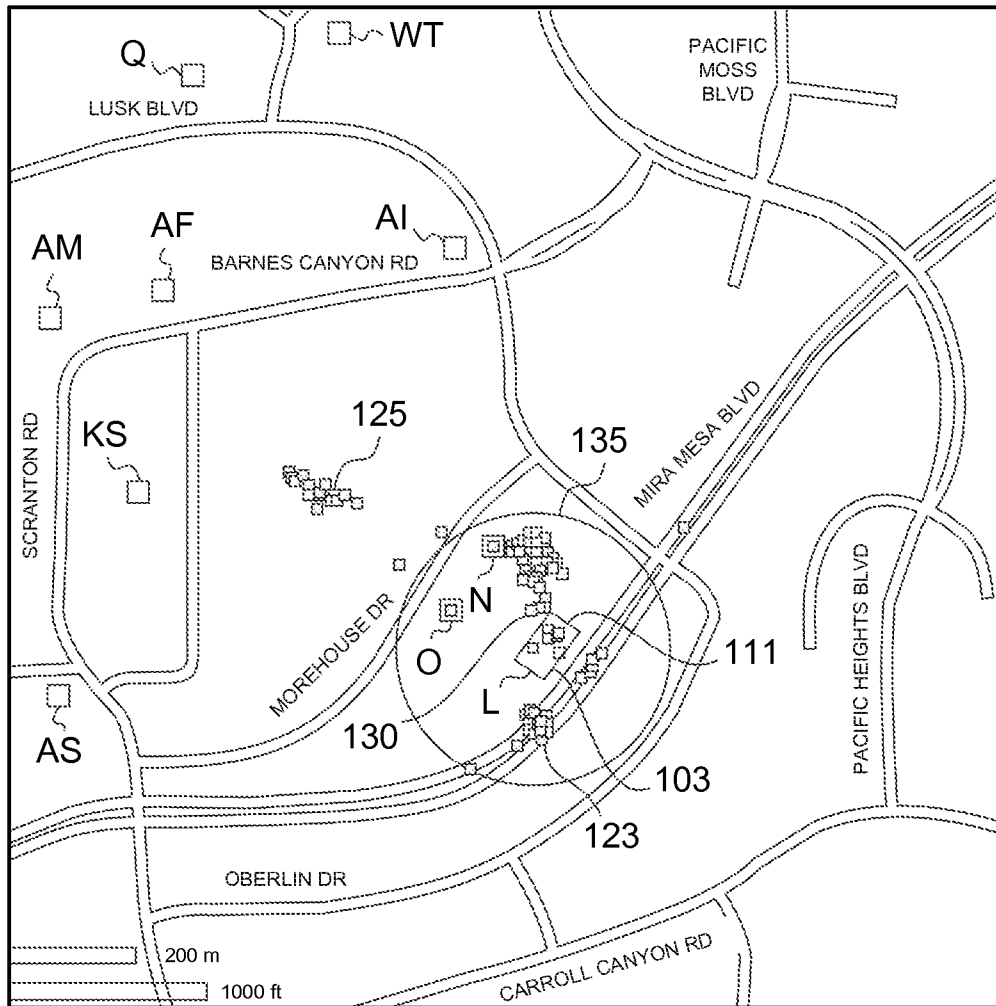
OTHER PUBLICATIONS

FOREIGN PATENT DOCUMENTS

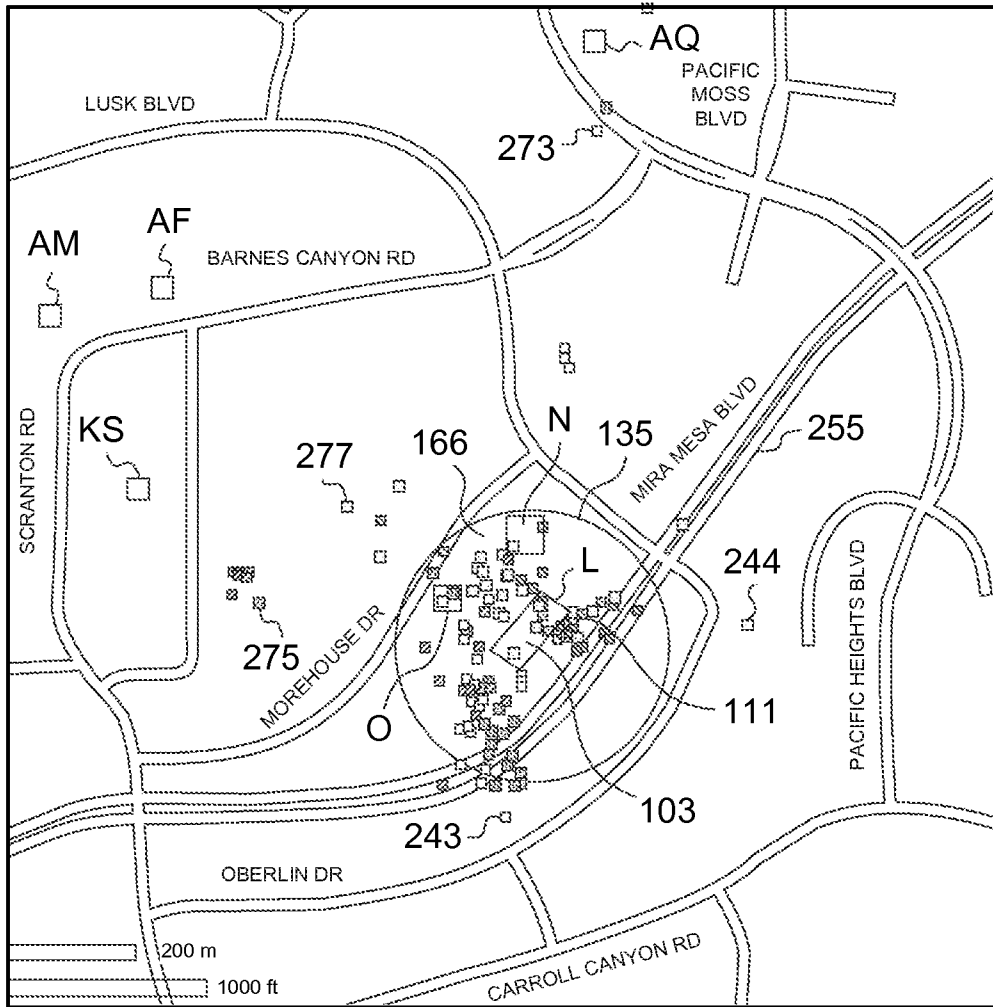
JP	2005216128 A	8/2005
JP	2006524316 A	10/2006
JP	2006350869 A	12/2006
WO	9801769	1/1998
WO	WO0068907	11/2000
WO	WO02086533 A2	10/2002

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

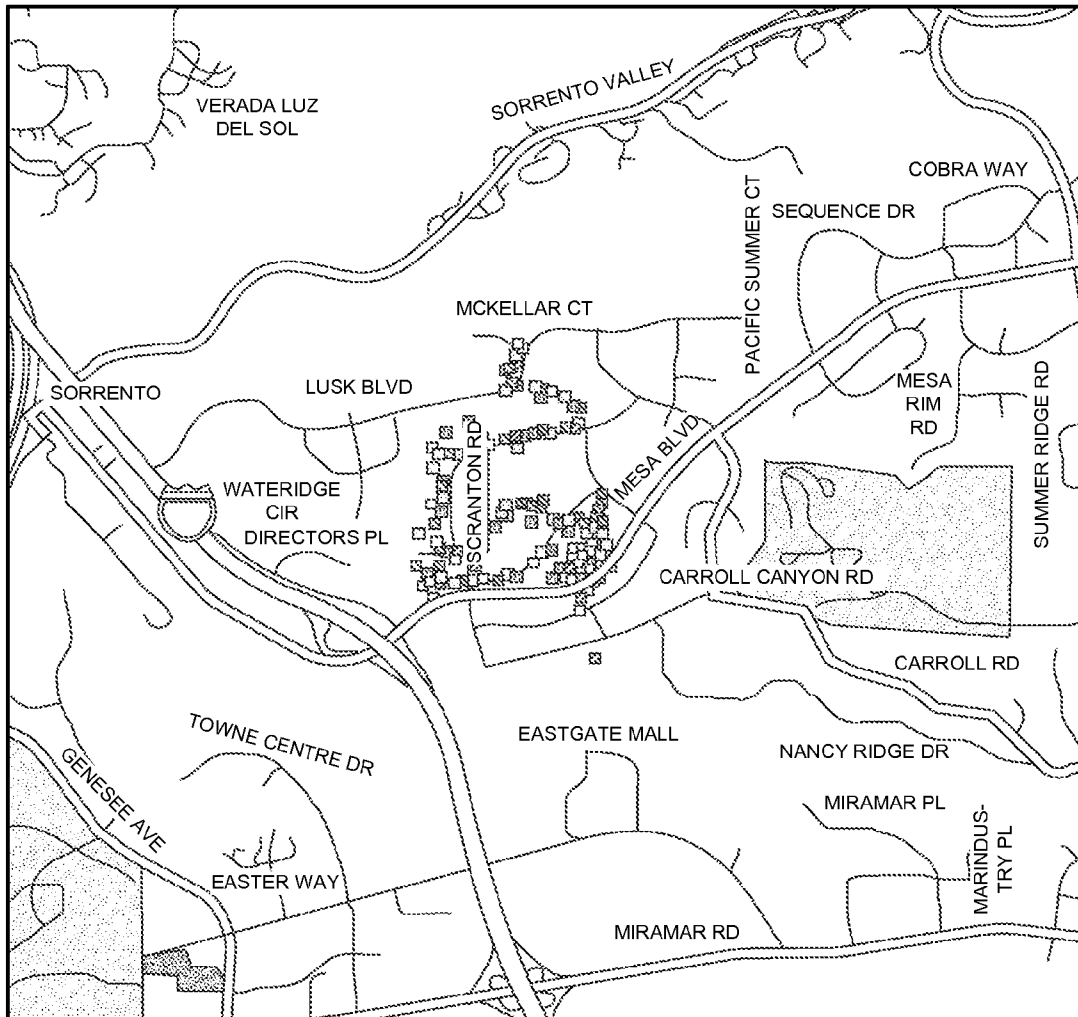
\* cited by examiner



**FIG. 1**



**FIG. 2**



**FIG. 3a**

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.