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[Continued on next page]

(54) Title: HYBRID MOBILE PHONE GEOPOSITIONING

(57) Abstract: A hybrid positioning system for continuously and accurately determining a location of a mobile device is provided. Samples of GPS locations from a pool of mobile devices and accompanying cell tower data, WLAN data, or other comparable network signals are used to construct a dynamic map of particular regions. The dynamic map(s) may be sent to and stored on individual mobile devices such that the mobile device can compare its less accurate, but more readily available, data like cell tower signals to recorded ones and estimate its position more accurately and continuously. The position data may be sent to a server for user in location based services.

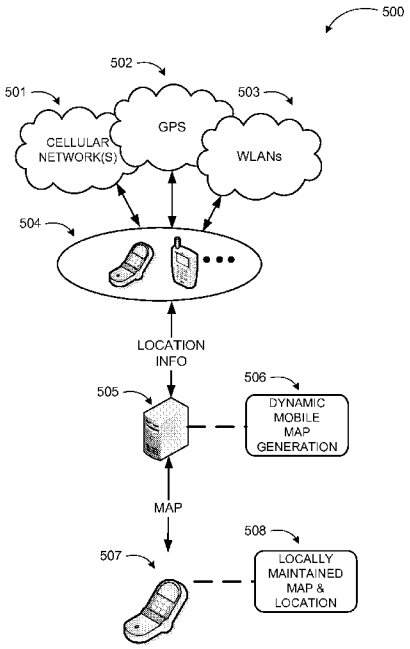

FIG. 5

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SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

— *with international search report (Art. 21(3))*

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A. CLASSIFICATION OF SUBJECT MATTER

H04W 64/00(2009.01)i, H04W 4/02(2009.01)i, G01S 19/12(2010.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04W 64/00; H04B 7/15; H04W 4/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: location , mobile device , dynamic map

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-2004-0030367 A (INTERDIGITAL TECHNOLOGY CORPORATION) 09 April 2004 See claims 1-23 and figures 1-3.	1-15
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A	KR 10-2003-0014114 A (DENSO CORPORATION) 15 February 2003 See claims 1-15 and figures 1-8.	1-15

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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Date of the actual completion of the international search	Date of mailing of the international search report
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